Southeastern Geology: Volume 4, No. 1 September 1962

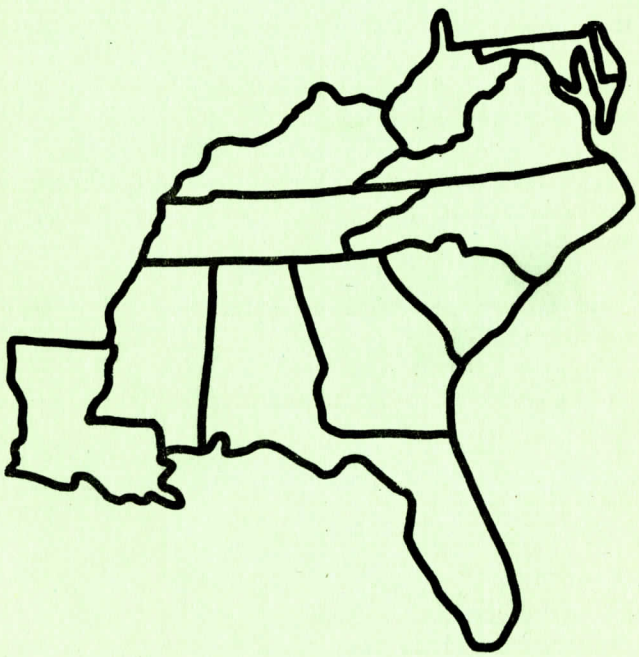
Edited by: E. Willard Berry & S. Duncan Heron, Jr.

Abstract

Academic journal published quarterly by the Department of Geology, Duke University.

J. R. Butler

Southeastern Geology



VOL. 4 NO. 1

SEPTEMBER, 1962

SOUTHEASTERN GEOLOGY
PUBLISHED QUARTERLY BY THE
DEPARTMENT OF GEOLOGY
DUKE UNIVERSITY

This journal welcomes original papers on all phases of geology, geophysics, and geochemistry as related to the Southeast. Transmit manuscripts to S. DUNCAN HERON, JR., BOX 6665, COLLEGE STATION, DURHAM, NORTH CAROLINA. Please observe the following:

(1) Type the manuscript with double space lines and submit in duplicate.
(2) Cite references and prepare bibliographic lists in accordance with the method found within the pages of this journal.
(3) Submit line drawing and complex tables as finished copy.
(4) Make certain that all photographs are sharp, clear, and of good contrast.

Proofs will not be sent authors unless a request to this effect accompanies the manuscript.

Reprints must be ordered prior to publication. Prices are available upon request.

* * *

Subscriptions to Southeastern Geology are $5.00 per volume. Inquiries should be addressed to WM. J. FURBISH, BOX 6665, COLLEGE STATION, DURHAM, NORTH CAROLINA. Make check payable to Southeastern Geology.

SOUTHEASTERN GEOLOGY

Table of Contents

Vol. 4, No. 1
1962

A SUPPLEMENTARY CATALOG OF TYPE LOCALITIES OF COASTAL PLAIN STRATIGRAPHIC UNITS

by

James F. L. Connell
Department of Biology
Alabama College

ABSTRACT

To supplement the 324 names of surface and subsurface stratigraphic units listed in a previous paper by the writer (1960), this paper lists 546 additional names of geologic units which have been used in the Gulf and Atlantic Coastal Plains. The rock units employed herein range in age from Pennsylvanian to Recent. The geographic distribution encompasses an area from west Texas to Maine, inclusive.

INTRODUCTION

This assemblage of names of stratigraphic units serves as a supplement to "A Catalog of Type Localities of Coastal Plain Stratigraphic Units," which lists 324 of the better known geologic names recognized by Coastal Plain geologists. The present paper contains 546 additional units, many of which have been discarded or replaced by other more widely recognized names, but which reappear in recent literature from time to time. In those instances where a number of names have been employed at several intervals for the same unit, the several names are placed together in this Catalog. It is not to be construed that these several names are applied to multiple units which are older or younger than each other. As far as possible, the units appearing in this paper are arranged in proper

stratigraphic sequence.

The pattern used in assembling the formations, members, etc., duplicates that which was employed in the original Catalog. The great majority of units listed are of sedimentary origin. Purposely omitted are many of the tuffaceous and other extrusive igneous entities which are recognized in the Gulf Coastal Plain.

The writer is indebted to a number of workers for their criticisms and suggestions. A number of additional units suggested by these workers have been incorporated into the present paper.

It is hoped that the original Catalog and the present Supplement will serve the purpose for which it was intended, i.e., as a ready reference for undergraduate and graduate majors in geology, as well as academicians and petroleum geologists.

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
MONAHANS	Exposures on the south side of U. S. Highway 80, 6.6 miles northeast of Monahans, Ward County, Texas. Huffington and Albritton, 1941, American Journal of Science, Volume 235, No. 5
JUDKINS	Exposures on the south side of U. S. Highway 80, 6.6 miles northeast of Monahans, Ward County, Texas. Type locality same as overlying Monahans. Origin of name Judkins unknown to present author. Huffington and Albritton, 1941, American Journal of Science, Volume 239, No. 5
KOKERNOT	Named for Kokernot Ranch, southwest of Elephant Mountain, between Calamity Creek and Texas Highway 118. Exposures one mile northwest of the Neville Ranchhouse on the west bank of Calamity Creek, east of Texas Highway 118, northwestern Brewster County, Texas. Albritton and Bryan, 1938, Geological Society of America Bulletin (abst.), Volume 49, No. 12, Part 2
CALAMITY	Named for Calamity Creek, but type locality designated along east bank of Sheep Creek (tributary to Calamity Creek), south of the Terlingua-Alpine road crossing (Texas Highway 118), west of Elephant Mountain, northwestern Brewster County, Texas. Albritton and Bryan, 1938, Geological Society of America Bulletin (abst.), Volume 49, No. 12; 1939, Volume 50, No. 9
NEVILLE	Exposures one mile northwest of the Neville Ranchhouse on the west bank of Calamity Creek, east of Texas Highway 118, northwestern Brewster County, Texas. Albritton and Bryan, 1938, Geological Society of America Bulletin (abst.), Volume 49, No. 12, Part 2; 1939, Volume 50, No. 9
DELANEY	Exposures on the Delaney Ranch along the Bee Caves road, 3 miles west of Austin, Travis County, Texas. Mathis, 1944, Journal of Sedimentary Petrology, Volume 14, No. 2
DEWEYVILLE	Exposures at Deweyville (on U. S. Highway 190), southeastern Newton County, Texas. Bernard, 1950, Quaternary Geology of Southeast Texas, Unpublished PhD Dissertation, Louisiana State University; Andersen, 1960, Louisiana Geological Survey Bulletin 34
ONION CREEK	Exposures in the valley of Onion Creek in eastern Hays County, Texas. Hill and Vaughan, 1898, U. S. Geological Survey 18th Annual Report, Part 2
RIO GRANDE	Exposures in the flats above water level along the Rio Grande River in western Presidio County, Texas. Udden, 1904, Texas University Mineralogical Survey Bulletin 8 (Shafter District)
LEONA	Exposures in the first wide terrace along the Leona River in southern Uvalde and northern Zavalla Counties, Texas. Hill and Vaughan, 1898, U. S. Geological Survey 18th Annual Report, Part 2
SPRING CREEK	Exposures along Spring Creek, a tributary of Double Mountain Fork of the Brazos River in western Garza and eastern Lynn Counties, Texas. Evans and Meade, 1945, Texas Bureau of Economic Geology Publication 4401
TULE	Exposures along Tule Creek in Brisco and Swisher Counties, Texas. Cummins, 1893, Texas Geological Survey 4th Annual Report for 1892

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
RITA BLANCA	Exposures along Rita Blanca Creek, about 8 miles west of Channing, southeastern Hartley County, Texas, Evans and Meade, 1945, Texas Bureau of Economic Geology Publication 4401
UVALDE	Exposures near Uvalde (U. S. Highway 90), south-central Uvalde County, Texas. Hill, 1891, American Geologist, Volume 7; Trowbridge, 1923, U. S. Geological Survey Professional Paper 131; Deussen, 1924, U. S. Geological Survey Paper 126; Plummer, 1933, University of Texas Bulletin 3232; Lonsdale and Day, 1937, U. S. Geological Survey Water Supply Paper 778
HOCKLEY MOUND	Exposures at Hockley Mound on Willis Plain, 4 miles southwest of Hockley, Harris County, Texas. Doering, 1935, American Association of Petroleum Geologists Bulletin, Volume 19, No. 5
BRIDWELL	Exposures on the Bridwell Ranch, Blanco Canyon, Crosby County, Texas. Evans, 1949, West Texas Geological Society Guidebook Field Trip No. 2, November 6-9
LABAHIA	Exposures near La Bahia Mission along the San Antonio River, south of Goliad, Goliad County, Texas, Plummer, 1933, University of Texas Bulletin 3232
LAGARTO CREEK	Exposures along Lagarto Creek, Live Oak County, Texas. Plummer, 1933, University of Texas Bulletin 3232
LAPARA	Exposures on Lapara Creek, Live Oak County, Texas. Dumble, 1893, Brown Coal and Lignite of Texas; 1894, Journal of Geology, Volume 2; Deussen, 1924, U. S. Geological Survey Professional Paper 126; Plummer, 1933, University of Texas Bulletin 3232
DUGOUT	Exposures at Dugout Wells, near Boquillas, southern Brewster County, Texas. Udden, 1907, University of Texas Bulletin 93
COUCH	Exposures on the Couch Ranch, Blanco Canyon, Crosby County, Texas. Evans, 1949, West Texas Geological Society Guidebook Field Trip No. 2, November 6-9
NAVASOTA	Exposures at Navasota, southwestern Grimes County, Texas. Kennedy, 1893, Texas Geological Survey 4th Annual Report, Part 1
MOULTON	Exposures at Moulton, northwestern Lavaca County, Texas. Renick, 1936, University of Texas Bureau of Economic Geology Bulletin 3619
BURKEVILLE	Exposures at Burkeville (Junction of Texas Highways 63 and 87), northeastern Newton County, Texas. Veatch, 1902, Louisiana Geological Survey Annual Report for 1902, Part 6
DEWITT	Exposures in Dewitt County, Texas. Deussen, 1914, U. S. Geological Survey Water Supply Paper 335; 1924, U. S. Geological Survey Professional Paper 126
CUERO	Exposures at Cuero (Junction of U. S. Highways 87 and 183), central Dewitt County, Texas. Weeks, 1941, American Association of Petroleum Geologists 26th Annual Meeting Program (abst.); 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 12
COLD SPRING	Exposures at Cold Spring (Texas Highway 156), west of the Trinity River in central San Jacinto County, Texas. Dumble, 1915, Ge-

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	ological Society of America Bulletin, Volume 26; 1920, University of Texas Bulletin 1869
CORRIGAN	Exposures at Corrigan, north-central Polk County, Texas. Dumble, 1911, Texas Academy of Sciences, Volume 11; 1915, Geological Society of America Bulletin, Volume 26; 1920, University of Texas Bulletin 1869; Plummer, 1933, University of Texas Bulletin 3232
CHUSA	Exposures on the slopes of La Chusa Mesa, southeastern McMullen County, Texas. Bailey, 1926, University of Texas Bulletin 2645
SOLEDAD	Exposures in the Soledad Hills, western Duval County, Texas. Bailey, 1926, University of Texas Bulletin 2645
FANT	Exposures near Fant City, northern Live Oak County, Texas. Bailey, 1926, University of Texas Bulletin 2645
ROCKLAND	Exposures at Rockland, Tyler County, Texas. Dumble, 1901, Geology of the Beaumont Oil Field
DUNLAP QUARRY	Exposures in a quarry on the G. W. Dunlap property, 2.4 miles southeast of Millican, Brazos County, Texas. Renick, 1936, University of Texas Bulletin 3619
TASCOTAL	Exposures at Wire Gap, on the east slope of Tascotal Mesa, Presidio County, Texas. Goldich and Seward, 1948, West Texas Geological Society Guidebook Fall Field Trip
YEAGER	Exposures on the Yeager Ranch on the Cotulla-San Diego road, northeastern Webb County, Texas. Gardner and Trowbridge, 1931, American Association of Petroleum Geologists Bulletin, Volume 15, No. 4
DRISCOLL-SEVIER	Occurs in subsurface only in a well (No. 27) in the west section, Santa Clara, Driscoll-Sevier No. A-1, Neuces County, Texas. Deussen and Owen, 1939, American Association of Petroleum Geologists Bulletin, Volume 23, No. 11
FLOUR BLUFF	Occurs in subsurface only in well No. 38 in the west section (Hurlburt and Still, Phillips No. 1), Nueces County, Texas. Deussen and Owen, 1939, American Association of Petroleum Geologists Bulletin, Volume 23, No. 11
PIERCE ESTATE	Occurs in subsurface only in well No. 20, Pierce Estate, Fee No. 2, Wharton County, Texas. Deussen and Owen, 1939, American Association of Petroleum Geologists Bulletin, Volume 23, No. 11
OLD OCEAN	Occurs in subsurface only in the Old Ocean oil field, western Brazoria County, Texas. Deussen and Owen, 1939, American Association of Petroleum Geologists Bulletin, Volume 23, No. 11
GRETA	Occurs in subsurface only. The so-called "4,400 foot sand" or "Heterostegina sand" in the Greta oil field, Refugio County, Texas. Stamey, Montgomery, and Easton, 1935, American Association of Petroleum Geologists Bulletin, Volume 19, No. 4
VAN VLECK	Occurs in subsurface only in well No. 21, in the east section (skelly, Cobb No. 14-B), Van Vleck oil field, Matagordo County, Texas. Deussen and Owen, 1939, American Association of Petroleum Geologists Bulletin, Volume 23, No. 11

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
OLMOS	Exposures on Olmos Creek where the Fant City-Whitsett highway crosses the creek, 1 mile south of Whitsett, northwestern Live Oak County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
FASHING	Exposures in the vicinity of Fashing, Karnes County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
CALLIHAM	Exposures in the south bank of the Frio River near the crossing of the former FM99, 0.6 mile north-northeast of the village of Calliham, between Whitsett and Calliham, northeastern McMullen County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17; Eargle, 1959, American Association of Petroleum Geologists Bulletin, Volume 43
ROCK PRAIRIE	Exposures 1.8 mile east of Texas Highway 6 at Rock Prairie, Brazos County, Texas. Matthews, 1950, Texas Engineering Experiment Station Research Report 14 (geol. manual)
DUBOSE	Exposures along Sandies Creek on the Dubose Ranch, Gonzales County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
GLENDALE	Exposures at Glendale, Trinity County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
STONE'S SWITCH	Exposures in a quarry about 3 miles south of Campbellton, southeastern Atascosa County, Texas. Name of unit derived from a railroad switch in the quarry. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
MITCHELL'S FERRY	Exposures at Mitchell's Ferry on the Sabine River, northeastern Newton County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
FALLS CITY	Exposures in the bed of the San Antonio River forming the falls of the river west of Falls City, northwestern Karnes County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
GUTOSKEY	Occurs in subsurface only. Named for the Joe Gutoskey lease in the Raccoon Bend oil field, east-central Austin County, Texas. Teas and Miller, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 12
LIPAN	Exposures in the Lipan Hills, east of Campbellton, Atascosa County, Texas. Dumble, 1924, American Association of Petroleum Geologists Bulletin, Volume 8; Plummer, 1933, University of Texas Bulletin 3232; Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11
GRAWUNDER	Occurs in subsurface only at a depth of 3,430 feet in the Humble Grawunder No. C-1 well, in the Raccoon Bend oil field, east-central Austin County, Texas. Teas and Miller, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 12
CONQUISTA	Exposures in the bluff adjoining Conquista Crossing on the San Antonio River, 3.75 miles southwest of Falls City, Karnes County, Texas. Eargle, 1959, Gulf Coast Association of Geological Societies Transactions, Volume 9

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
YUMA	Exposures along the Missouri Pacific Railroad, about 300 feet north of the station at Yuma, southwestern Brazos County, Texas. Renick, 1936, University of Texas Bulletin 3619
DILWORTH	Exposures at Dilworth, Gonzales County, Texas. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11; Renick. 1936, University of Texas Bulletin 3619
MANNING	Exposures at Manning, southern Angelina County, Texas. Dumble, 1915, Geological Society of America Bulletin, Volume 26; Plummer, 1933, University of Texas Bulletin 3232; Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11; Renick, 1936, University of Texas Bulletin 3619
TUTTLE	Exposures on the Tuttle Survey in the abandoned Southern Pacific Railroad right-of-way, 1.5 mile north of Piedmont, west-central Grimes County, Texas. Russell, 1955, Gulf Coast Association of Geological Societies Transactions, Volume 5
GOODBREAD	Exposures on Lake Creek near the Goodbread Survey, 1 mile west of Carlos, west-central Grimes County, Texas. Russell, 1955, Gulf Coast Association of Geological Societies Transactions, Volume 5
WELLBORN	Exposures at Wellborn (Texas Highway 2154), southwestern Brazos County, Texas. Kennedy, 1893, Texas Geological Survey 4th Annual Report, Part 1; Plummer, 1933, University of Texas Bulletin 3232; Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11; Renick, 1936, University of Texas Bulletin 3619
CARLOS	Exposures along the Southern Pacific Railroad right-of-way (now abandoned) 1/4 mile north of Carlos Station, Grimes County, Texas. Renick, 1936, University of Texas Bulletin 3619
BEDIAS	Exposures at Bedias, Grimes County, Texas. Renick, 1936, University of Texas Bulletin 3619
DIBOLL	Exposures at Diboll, southwestern Angelina County, Texas. Sheldon, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 7
AGUA VERDE	Exposures in a creek bed one mile due south of the Agua Verde Ranchhouse (house located on the north line of the Excobares Quadrangle), approximately 10 miles northwest of Rio Grande City, southwestern Starr County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
ROMA	Exposures at Roma along the Rio Grande River, southwestern Starr County, Texas. Kane and Gierhart, 1935, American Association of Petroleum Geologists Bulletin, Volume 19, No. 9
RESENDEZ	Exposures at the Resendex Ranchhouse, 1 mile northwest of Roma, Roma Quadrangle, southwestern Starr County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
SALINENO	Exposures at Salineno, western Starr County, Texas. Kane and Gierhart, 1935, American Association of Petroleum Geologists Bulletin, Volume 19, No. 9

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
TURKEY CREEK	Exposures along the upper course of Turkey Creek and North Turkey Creek, Brazos County, Texas. Reed and Longnecker, 1929, University of Texas Bulletin 2901
CONROE	Occurs in subsurface only in the Conroe oil field, 5 miles southeast of Conroe, Montgomery County, Texas. Deussen and Andrau, 1936, American Association of Petroleum Geologists Bulletin, Volume 20, No. 5; Michaux and Buck, 1936, American Association of Petroleum Geologists Bulletin, Volume 20, No. 6
LOS ARRIEROS	Exposures at the village of Los Arrieros on the Rio Grande River on the north line of the Roma Quadrangle, southwestern Starr County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
LOMA BLANCA	Exposures at Arroyo Loma Blanca in the Arroyo Clareno Quadrangle, southwestern Zapata County, Texas. Kane and Gierhart, 1935, American Association of Petroleum Geologists Bulletin, Volume 19, No. 9; Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
JOSE'	Exposures at the Jose' Ranchhouse, 1 3/4 mile northeast of the village of Falcon, southwestern Zapata County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
LA PERLA	Exposures at the La Perla Ranchhouse on the Rio Grande River, in the northern part of the San Ygnacio Quadrangle, northwestern Zapata County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
PETTUS	Occurs in subsurface only in the Driscoll oil pool, Duval County, Texas. Brace, 1931, American Association of Petroleum Geologists Bulletin, Volume 15, No. 7; Deussen and Andrau, 1936, American Association of Petroleum Geologists Bulletin, Volume 20, No. 5
FALCON	Exposures at the village of Falcon on the Rio Grande River, 2 miles north of the Starr-Zapata County line, southwestern Zapata County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
VELENO	Exposures in Arroyo Veleno (misspelled Beleno on topographic maps), which enters the Rio Grande River 3 miles southeast of the town of Zapata, Zapata Quadrangle, western Zapata County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
TWO MILE	Exposures along Two Mile Creek in Elm Creek Valley, Leon County, Texas. Harris, 1941, Texas University Bureau of Economic Geology Mineralogical Research Survey Circular 33
LITTLE BRAZOS	Exposures along the Little Brazos River near the old interburban crossing on the W. T. James estate, about 1.4 mile northeast of Bryan Station, Brazos County, Texas. Renick, 1931, University of Texas Bulletin 3101; Plummer, 1933, University of Texas Bulletin 3232
MOSELEY	Exposures at the Old Moseley's Ferry site on the Brazos River, near the railroad trestle on the Giddings to Hearne branch of the

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	Southern Pacific Railroad, in southern Robertson County, Texas. Renick and Stenzel, 1931, University of Texas Bulletin 3101; Plummer, 1933, University of Texas Bulletin 3232; Stenzel, 1935, University of Texas Bulletin 3501
WHEELOCK	Exposures on Wheelock Prairie at Wheelock (Junction of Texas Highways 46 and 391), southern Robertson County, Texas. Stenzel, 1938, Texas University Bureau of Economic Geology Publication 3818
STONE CITY	Exposures at Stone City on the Brazos River, northeastern Burleson County, Texas. Stenzel, 1935, University of Texas Bulletin 3501
EATON	Exposures in the vicinity of Shiloh School, south of Eaton, southern Robertson County, Texas. Renick and Stenzel, 1931, University of Texas Bulletin 3101; Plummer, 1933, University of Texas Bulletin 3232; Stenzel, 1935, University of Texas Bulletin 3501
GAZLEY CREEK	Exposures at the mouth of Gazley Creek on the western edge of Smithville, Bastrop County, Texas. Price and Palmer, 1928, Journal of Paleontology, Volume 2
GARCENO	Exposures at the Garceno Ranchhouse, 9 miles northwest of the town of Zapata on the Rio Grande River, western Zapata County, Texas. Patterson, 1942, American Association of Petroleum Geologists Bulletin, Volume 26, No. 2
DIME BOX	Exposures at Dime Box (Texas Highway 141), eastern Lee County, Texas. McCallum, 1947, South Texas Geological Society Guidebook 14th Annual Meeting Field Trip
SERBIN	Exposures 1 3/4 mile northwest of Serbin, Lee County, Texas. Stenzel, 1939, Texas Bureau of Economic Geology Publication 3945, Part 2
BRYAN	Exposures along Texas Highway 21 from 2.1 to 3.75 miles west of the courthouse at Bryan, Brazos County, Texas. Stenzel, 1939, Texas University Bureau of Economic Geology Publication 3945, Part 2; Matthews, 1950, Texas Engineering Experiment Station Research Report 14 (geol. map)
MOUNT TABOR	Exposures in the vicinity of Tabor (Texas Highway 974), northwestern Brazos County, Texas. Stenzel, 1938, Texas University Bureau of Economic Geology Publication 3818
TABOR	Same type locality as Mount Tabor (above). Harris, 1941, Texas University Bureau of Economic Geology Mineralogical Survey Circular 33
SPILLER	Exposures at Spiller's Store, southeastern Leon County, Texas. Stenzel, 1938, University of Texas Bureau of Economic Geology Publication 3818
LANDRUM	Exposures along Two Mile Creek on the J. T. Landrum Survey, near Leona, southern Leon County, Texas. Stenzel, 1938, Texas University Bureau of Economic Geology Publication 3818
HURRICANE	Exposures along Hurricane Bayou, 3 miles northeast of Crockett, Central Houston County, Texas. Stenzel, 1940, American Association of Petroleum Geologists Bulletin, Volume 24, No. 9

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
LUFKIN	Exposures at Lufkin, Angelina County, Texas. Kennedy, 1892, Texas Geological Survey 3rd Annual Report; Renick, 1928, American Association of Petroleum Geologists Bulletin, Vol. 12
NACOGDOCHES	Exposures at Nacogdoches, central Nacogdoches County, Texas. Dumble, 1920, University of Texas Bulletin 1869; Renick, 1928, American Association of Petroleum Geologists Bulletin, Volume 12; Plummer, 1933, University of Texas Bulletin 3232
TYLER	Exposures in Tyler, west-central Smith County, Texas. Wendlandt and Knebel, 1929, American Association of Petroleum Geologists Bulletin, Volume 13
LOW CREEK	Exposures near the mouth of Low's Creek on the Sabine River, near Sabinetown, Sabine County, Texas. Veatch, 1902, Louisiana Geological Survey Report for 1902, Part 6; Plummer, 1933, University of Texas Bulletin 3232
PALAFOX	Exposures along the east bank of the Rio Grande River from the mouth of Espada Creek to the bluffs east of Palafox, in western Webb County, Texas. Kane and Gierhart, 1935, American Association of Petroleum Geologists Bulletin, Volume 19, No. 9
SAN AUGUSTINE	Exposures at San Augustine, central San Augustine County, Texas. Dumble, 1924, American Association of Petroleum Geologists Bulletin, Volume 8, No. 4; Renick, 1928, American Association of Petroleum Geologists Bulletin, Volume 12; Ellisor, 1929, American Association of Petroleum Geologists Bulletin, Volume 13
THERRILL	Exposures in water falls near the center of Magnolia Petroleum Company 160 acre tract on the J. B. and J. E. Therrill Survey, Leon County, Texas. Stenzel, 1938, University of Texas Bureau of Economic Geology Publication 3818
VIESCA	Exposures at Lee's Waterfall in the center of the Jose' Maria Viesca Survey, Leon County, Texas. Stenzel, 1938, University of Texas Bureau of Economic Geology Publication 3818
TYUS	Exposures in the cut of the abandoned Houston and Texas Central Railroad right-of-way, .4 mile north of Robbin's Crossroads, on the R. M. Tyus Survey, Leon County, Texas. Stenzel, 1938, University of Texas Bureau of Economic Geology Publication 3818
OMEN	Exposures near Omen, southeastern Smith County, Texas. Wendlandt and Knebel, 1929, American Association of Petroleum Geologists Bulletin, Volume 13, No. 10; Moody, 1931, American Association of Petroleum Geologists Bulletin, Volume 15, No. 5; Plummer, 1933, University of Texas Bulletin 3232
MARQUEZ	Exposures at Marquez (U. S. Highway 79), western Leon County, Texas. Stenzel, 1938, University of Texas Bureau of Economic Geology Publication 3818
NEWBY	Exposures at Newby, Leon County, Texas. Stenzel, 1938, University of Texas Bureau of Economic Geology Publication 3818
BIGFORD	Exposures on Bigford Ranch, Webb County, Texas. Trowbridge, 1923, Geological Society of America Bulletin, Volume 34; 1923, U. S. Geological Survey Professional Paper 131D; Plummer, 1933, University of Texas Bulletin 3232

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
MILLS	Exposures on the O. A. Mills Ranch, in Zavala County, Texas. Getzendaner, 1930, American Association of Petroleum Geologists Bulletin, Volume 14, No. 11
ARP	Exposures at Arp, 19 miles southeast of Tyler, on Texas Highway 135, southeastern Smith County, Texas. Blanpied and Hazzard, 1939, Shreveport Geological Society Guidebook 14th Annual Field Trip (correlation chart); Stenzel, 1953, University of Texas Bureau of Economic Geology Publication 5305
SMETANA	Exposures at the settlement of Smetana and at Fairview, 3.5 miles west of Bryan, Brazos County, Texas. Matthews, 1950, Texas Engineering Experiment Station Research Report 14
TIMBER BELT	Exposures in the timber region of eastern Texas. Dumble and Penrose, 1890, Texas Geological Survey 1st Annual Report
LOSOYA CREEK	Exposures at the bridge over Losoya Creek on the South Flores road, south of San Antonio, Bexar County, Texas. Plummer, 1933, University of Texas Bulletin 3232
BUTLER	Exposures at Butler (U. S. Highway 84), southeastern Freestone County, Texas. Plummer, 1933, University of Texas Bulletin 3232
INDIO	Exposures on the old Indio Ranch in southeastern Maverick and western Dimmit Counties, Texas. Trowbridge, 1923, U. S. Geological Survey Professional Paper 131D
BUTTS GIN	Exposures at Butts Gin, approximately 6 miles northwest of Yancey, Medina County, Texas. Liddle, 1921, University of Texas Bulletin 1860
SECO	Exposures in Seco Creek, 3 miles southwest of Yancey, in extreme southern Medina County, Texas. Liddle, 1921, University of Texas Bulletin 1860
HOOPER	Exposures at Hooper Bend on the Colorado River, northwestern Bastrop County, Texas. Sharp, 1953, in American Association of Petroleum Geologists, Society of Economic Paleontologists and Mineralogists, and Society of Economic Geologists Guidebook Field Trip Routes Joint Annual Meeting (geol. map)
LYTTON	Exposures at Lytton Springs, Caldwell County, Texas. Hill and Vaughan, 1902, U. S. Geological Survey Austin Folio No. 76
WEBB BLUFF	Exposures at Webb Bluff, 3 miles south of the northern boundary of Maverick County, Texas. Dumble, 1892, Geological Society of America Bulletin, Volume 3
SQUIRREL CREEK	Exposures on the east and west branches of Squirrel Creek, above the old Captain Smith Ranchhouse, Medina County, Texas. Liddle, 1921, University of Texas Bulletin 1860; Chadwick, 1929, Geological Society of America Bulletin, Volume 40
KERENS	Exposures along the Trinity River north of the St. Louis and Southwestern Railroad, east of Kerens, in eastern Navarro County, Texas. Plummer, 1933, University of Texas Bulletin 3232
ROSETTE	A non-geographic name for the 8 to 10 inch bed of crystals of aragonite in the form of rosettes, in the Wortham aragonite lentil (middle member of the Wills Point formation). Plummer, 1933, University of Texas Bulletin 3232; Cuyler and Weeks, 1940, Geological Society of America Guidebook 53rd Annual Meeting

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
WORTHAM	Exposures in a stream valley one mile east of Wortham, northwestern corner of Freestone County, Texas. Plummer, 1933, University of Texas Bulletin 3232
MEXIA	Exposures in a clay pit at the brick yard on the western edge of Mexia, Limestone County, Texas. Plummer, 1933, University of Texas Bulletin 3232
PISGAH	Exposures on Pisgah Ridge, Navarro County, Texas, on the road (Texas Highway 14) between Richland and Wortham, 6 miles north of the Limestone County line. Plummer, 1933, University of Texas Bulletin 3232; Gardner, 1935, University of Texas Bulletin 3301
ELSTONE	Exposures in the bed of the Hondo River near Elstone, Medina County, Texas. Liddle, 1921, University of Texas Bulletin 1860; Chadwick, 1929, Geological Society of America Bulletin, Volume 40; Plummer, 1933, University of Texas Bulletin 3232
TEHUACANA	Exposures at Tehuacana Bluff, just west of the town of Tehuacana, northeastern Limestone County, Texas. Harris, 1896, Bulletins of American Paleontology, Volume 1, No. 4; Plummer, 1928, Pan-American Geologist, Volume 49; Gardner, 1932, Geologic Map of Texas (preliminary edition); Plummer, 1933, University of Texas Bulletin 3232; Gardner, 1935, University of Texas Bulletin 3301
ROCKY CEDAR CREEK	Exposures in the Ola quarry one mile south of Ola, and along Rocky Cedar Creek, between Ola and Wills Point, northeastern Kaufman County, Texas. Harris, 1896, Bulletins of American Paleontology, Volume 1, No. 4; Plummer, 1933, University of Texas Bulletin 3232
LONE OAK	Exposures in Lone Oak quarry west of Lone Oak, southeastern Hunt County, Texas. Plummer, 1933, University of Texas Bulletin 3232
LITTIG	Exposures in a road cut 1.5 mile south-southwest of Littig, on the south slope of Wilbarger Creek, Travis County, Texas. Plummer, 1933, University of Texas Bulletin 3232
MYRICK	Exposures at Myrick's lower apiary, on the west bank of the Frio River, in southeastern Uvalde County, Texas. Vaughan, 1900, U. S. Geological Survey Uvalde Folio No. 64
BLACK PRAIRIE	Exposures in the Black Prairie region of eastern Texas. Hill, 1887, American Journal of Science, 3rd Series, Volume 33; 1889, Texas Geological Survey, Bulletin 4
VIEJA	Exposures in the Vieja Mountains, northwestern Presidio County, Texas. Vaughan, 1900, U. S. Geological Survey Bulletin 164; Udden, Baker, and Bose, 1916, University of Texas Bulletin 44
CROWN	Exposures at Crown Peak, Brewster County, Texas. Udden, 1907, University of Texas Bulletin 93
CHISOS	Exposures in the Chisos Mountains, Brewster County, Texas. Udden, 1907, University of Texas Bulletin 93; Adkins, 1933, University of Texas Bulletin 3232
TORNILLO	Exposures along Tornillo Creek in the Chisos Mountains quadrangle, southern Brewster County, Texas. Udden, 1907, University of Texas Bulletin 93

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
WEBBERVILLE	Exposures along the Colorado River at and near Webberville, Travis County, Texas. Hill, 1889, Texas Geological Survey Bulletin 4; 1890, Texas Geological Survey 1st Annual Report; 1901, U. S. Geological Survey 21st Annual Report, Part 7
BEXAR	Type locality not designated. Probably near Bexar County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
ESCONDIDO	Exposures along the Escondido River below Eagle Pass, western Maverick County, Texas. Dumble, 1892, Geological Society of America Bulletin, Volume 3; Stephenson, 1928, American Journal of Science, 5th Series, Volume 16
PULLIAM	Exposures on the Pulliam Ranch on the Nueces River, Zavala County, Texas. Vaughan, 1900, U. S. Geological Survey Uvalde Folio No. 64
OLMOS	Exposures at the flag station of Olmos, and along Olmos (Elm) Creek which parallels the strike of the unit from a point 7 or 8 miles north of Eagle Pass, to the junction of the creek with the Rio Grande River, western Maverick County, Texas. Stephenson, 1927, American Association of Petroleum Geologists Bulletin, Volume 11
ANACACHO	Exposures in the Anacacho Mountains, Kinney County, Texas. Hill and Vaughan, 1898, U. S. Geological Survey 18th Annual Report, Part 2
EAGLE PASS	Exposures at Eagle Pass, Maverick County, Texas. White, 1891, U. S. Geological Survey Bulletin 82; Dumble, 1892, Geological Society of America Bulletin, Volume 3; Vaughan, 1900, U. S. Geological Survey Bulletin 164; Udden, 1907, Augustana Library Publication No. 6
KEMP	Exposures in the faulted outlier near Kemp, southeastern Kaufman County, Texas, Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7; Adkins and Stephenson, 1933, University of Texas Bulletin 3232
CORSICANA	Exposures in the pit of the Corsicana Brick Company, 2 miles south of the courthouse at Corsicana, central Navarro County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7; Adkins and Stephenson, University of Texas Bulletin 3232
NEYLANDVILLE	Exposures along the Bankhead highway between Liberty School and Neylandville, central Hunt County, Texas. Adkins and Stephenson, 1933, University of Texas Bulletin 3232
RATTLESNAKE	Exposures at Rattlesnake Mountain, western Brewster County, Texas. Udden, 1907, University of Texas Bulletin 93; Adkins 1933, University of Texas Bulletin 3232
AGUJA	Exposures at Sierra Aguja (Needle Peak), in front of the Santa Helena fault scarp, 6 miles south of Terlingua, Brewster County, Texas. Adkins, 1933, University of Texas Bulletin 3232
TERLINGUA	Exposures along Terlingua Creek, southwestern Brewster County, Texas. Udden, 1907, University of Texas Bulletin 93; Adkins, 1933, University of Texas Bulletin 3232

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
COLQUITT	Exposures on the Colquitt Ranch below Chispa Summit, western Jeff Davis County, Texas. Adkins, 1933, University of Texas Bulletin 3232
SAN CARLOS	Exposures at San Carlos, western Presidio County, Texas. Vaughan, 1900, U. S. Geological Survey Bulletin 164; Udden, Baker, and Bose, 1916, University of Texas Bulletin 44
BLUE BLUFFS	Exposed as blue bluffs along the Colorado River in Travis County, Texas. Hill, 1889, Texas Geological Survey Bulletin 4
SAN MIGUEL	Exposures at the old rock house on Elm Creek, formerly owned by a pioneer ranchman, San Miguel. Now within the boundaries of the J. K. Burr ranch, about 13 miles north-northeast of Eagle Pass, western Maverick County, Texas. Dumble, 1892, Geological Society of America Bulletin, Volume 3; Bose and Cavins, 1927, University of Texas Bulletin 2748
ROGERS	Exposures along a small creek from 1 to 1 1/4 mile south and west of Rogers, southeastern Bell County, Texas. Adkins and Arick, 1930, University of Texas Bulletin 3016; Adkins, 1933, University of Texas Bulletin 3232
UPSON	Exposures at Old Upson post office near the town of Quemado, 15 miles north-northwest of Eagle Pass, western Maverick County, Texas. Dumble, 1892, Geological Society of America Bulletin, Volume 3; Vaughan, 1900, U. S. Geological Survey Bulletin 164; Udden, 1907, University of Texas Bulletin 93; Stephenson, 1928, American Journal of Science, 5th Series, Volume 16
LOTT	Exposures in the vicinity of Lott, southwest-central Falls County, Texas. Dane and Stephenson, 1928, American Association of Petroleum Geologists Bulletin, Volume 12; Stephenson, 1934, Journal of Paleontology, Volume 8, No. 3; Ellisor and Teagle, 1934, American Association of Petroleum Geologists Bulletin, Volume 18, No. 11
MARLIN	Exposures .4 to .9 mile south of the courthouse at Marlin, northeast-central Falls County, Texas. Dane and Stephenson, 1928, American Association of Petroleum Geologists Bulletin, Volume 12
COOLEDGE	Exposures 3 miles northwest of Cooledge, on the main road to Hubbard, Limestone County, Texas. Waters and Retter, 1930, American Association of Petroleum Geologists Bulletin, Volume 14; Adkins, 1933, University of Texas Bulletin 3232
WOLFE CITY	Exposures at Wolfe City on the northern boundary of Hunt County, Texas. Stephenson, 1918, U. S. Geological Survey Professional Paper 120H; Dane and Stephenson, 1928, American Association of Petroleum Geologists Bulletin, Volume 12
DURANGO	Exposures in the vicinity of Durango, southwestern Falls County, Texas. Dane and Stephenson, 1928, American Association of Petroleum Geologists Bulletin, Volume 12
PECAN GAP	Exposures in a railroad cut 1/2 mile east of Pecan Gap, northwestern Delta County, Texas. Stephenson, 1918, U. S. Ge-

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	ological Survey Professional Paper 120 H; Honess, 1927, Oklahoma Geological Survey Bulletin 40R; Dane and Stephenson, 1928, American Association of Petroleum Geologists Bulletin, Volume 12; Stephenson, 1929, American Association of Petroleum Geologists Bulletin, Volume 13
PINTO	Exposures along Pinto Creek, Val Verde County, Texas, Dumble, 1892, Geological Society of America Bulletin, Volume 3
BURDITT	Exposures at Burditt School, Travis County, Texas. Type locality designated along Little Walnut Creek, downstream from the Austin-Cameron road. Adkins, 1933, University of Texas Bulletin 3232; Stephenson, 1937, U. S. Geological Survey Professional Paper 186G
GOBER	Exposures at Gober, Fannin County, Texas. Stephenson, 1927, American Association of Petroleum Geologists Bulletin, Volume 11
ROXTON	Exposures near Roxton, southwestern Lamar County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
BONHAM	Exposures north of Bonham, Fannin County, Texas. Stephenson, 1918, U. S. Geological Survey Professional Paper 120H; 1928, American Journal of Science, 5th Series, Volume 16; 1929, American Association of Petroleum Geologists Bulletin, Volume 13, No. 10
BLOSSOM	Exposures at Blossom, Lamar County, Texas. Gordon, 1909, American Journal of Science, 4th Series, Volume 27
LAKE CROCKETT	Exposures in the ravine below the spillway of Lake Crockett, Fannin County, Texas. McNulty, 1954, American Association of Petroleum Geologists Bulletin, Volume 38, No. 2
sub-CLARKSVILLE	Occurs in wells at Clarksville (U. S. Highway 82), central Red River County, Texas. Veatch, 1906, U. S. Geological Survey Professional Paper 46
ECTOR	Exposures at Ector, northwestern Fannin County, Texas. Stephenson, 1918, U. S. Geological Survey Professional Paper 120H; 1928, American Journal of Science, 5th Series, Volume 16; 1929, American Association of Petroleum Geologists Bulletin, Volume 13, No. 10
DESSAU	Exposures along the Austin to Dessau road north of U. S. Highway 290, about 6 miles northeast of Austin, Travis County, Texas. Durham, 1955, Corpus Christi Geological Society Guidebook Annual Field Trip, March 11-12
DALLAS	Exposures at Dallas, Dallas County, Texas. Hill, 1887, American Journal of Science, 3rd Series, Volume 33
BOQUILLAS	Exposures along Tornillo Creek at Boquillas, Brewster County, Texas. Udden, 1907, University of Texas Bulletin 93

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
CARPENTER	Exposures at Carpenter Spring on the east side of Eagle Mountain, El Paso County, Texas. Taff, 1891, Texas Geological Survey 2nd Annual Report; Elliot and Gillerman, 1953, U. S. Geological Survey Bulletin 987
SOUTH BOSQUE	Exposures at South Bosque Station, McLennan County, Texas. Mather, 1902, Texas Academy of Science Transactions, Volume 4, Part 2, No. 8
VALVERDE	Exposures in bluffs along the Rio Grande River in southern Val Verde County, Texas. Dumble, 1892, Geological Society of America Bulletin, Volume 3
ARCADIA PARK	Exposures at Arcadia Park Station, 7 miles west of Dallas, Dallas County, Texas. Adkins, 1933, University of Texas Bulletin 3232
BRITTON	Exposures at Britton, northwestern Ellis County, Texas. Adkins, 1933, University of Texas Bulletin 3232
TARRANT	Exposures 1 mile east of Tarrant Station, at the crossing of the St. Louis, San Francisco, and Texas Railroad over a tributary of Bear Creek, Tarrant County, Texas. Adkins, 1933, University of Texas Bulletin 3232
PINE BLUFF	Exposures at Pine Bluff on the Red River, northwestern Red River County, Texas. Hazzard, 1939, Shreveport Geological Society Guidebook 14th Annual Field Trip
EAGLE	Probably named for exposures at Eagle Spring, at the northeastern end of Eagle Mountain, El Paso County, Texas. Taff, 1891, Texas Geological Survey 2nd Annual Report
EULESS	Exposures at Euless (Texas Highway 183), northeast of Fort Worth, Tarrant County, Texas. Hazzard, Blanpied, and Spooner, 1947, Shreveport Geological Society Reference Report for 1945, Volume 2; Stephenson, 1952, U. S. Geological Survey Professional Paper 242
LEWISVILLE	Exposures at Lewisville, southeastern Denton County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
DEXTER	Exposures near Dexter, northeastern Cooke County, Texas. Taff, 1893, Texas Geological Survey 4th Annual Report, Part 1; Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
KANAWHA	Exposures at Kanawha (Texas Highway 410), northwestern Red River County, Texas. Hazzard, 1939, Shreveport Geological Society Guidebook 14th Annual Field Trip
MEDILL	Exposures at the settlement of Medill, northeastern Lamar County, Texas. Hazzard, 1939, Shreveport Geological Society Guidebook 14th Annual Field Trip
RED RIVER	Exposures along the Red River in northeastern Texas. Shumard, 1860, St. Louis Academy of Science Transactions, Volume 1; Taff, 1892, Texas Geological Survey 3rd Annual Report

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
PEPPER	Exposures along a small branch of Pepper Creek just south of the Belton-Temple highway (U. S. Highway 81), in southern Bell County, Texas. Adkins, 1933, University of Texas Bulletin 3232
EAGLE MOUNTAINS	Exposures on the north side of the Eagle Mountains in southeastern Hudspeth County, Texas. Gillerman, 1953, U. S. Geological Survey Bulletin 987
GRAYSON	Exposures in Grayson County, Texas. Cragin, 1894, Colorado College Studies, Volume 5; Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
POTTSBORO	Exposures at Pottsboro, northern Grayson County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
SHOAL CREEK	Exposures along Shoal Creek at Austin, Travis County, Texas. Hill, 1889, American Geologist, Volume 3; American Journal of Science, 3rd Series, Volume 38; Texas Geological Survey Bulletin 4
GRAND PRAIRIE	Exposures on Grand Prairie, extending from 4 miles east of Forth Worth, Tarrant County, to 7 miles west of Weatherford, central Parker County, Texas. Hill and Penrose, 1889, American Journal of Science, 3rd Series, Volume 38
GAINESVILLE	Exposures at Gainesville, northeast-central Cooke County, Texas. Cragin, 1895, American Geologist, Volume 16
SOUTH TYLER	Occurs in subsurface only. Named for occurrence in the Phillips Petroleum Company #1 Mrs. W. T. McMinn well in the South Tyler oil field, west-central Smith County, Texas. Hazzard, Blanpied, and Spooner, 1947, Shreveport Geological Society Reference Report for 1945, Volume 2
MANESS	Occurs in subsurface only. Named for occurrence in Shell Oil Company's Maness well No. 1, in eastern Cherokee County, Texas. Bailey, Evans, and Adkins, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 2; Hazzard, Blanpied, and Spooner, 1947, Shreveport Geological Society Reference Report for 1945, Volume 2
DEVILS RIVER	Exposures along the Devils River in Val Verde County, Texas, from Camp Hudson to the Rio Grande River. Udden, 1907, Augustana Library Publication No. 6; Ross and Cartwright, 1935, University of Texas Bulletin 3401
PRESTON	Exposures at Preston near the southern shore of Lake Texoma, northern Grayson County, Texas. Hill, 1894, Geological Society of America Bulletin, Volume 5
KIRSCHBERG	Exposures at Kirschberg (Cherry Mountain), northwest of Fredericksburg, in east-central Gillespie County, Texas. Barnes, 1946, University of Texas Bureau of Economic Geology Publication 4301
BARTON CREEK	Exposures along Barton Creek near Austin, Travis County, Texas. Hill and Penrose, 1889, American Journal of Science 3rd Series, Volume 38

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
UNIVERSITY MESA	Exposures at University Mesa, near Stockton, west-central Pecos County, Texas. Adkins, 1933, University of Texas Bulletin 3232
SHINGLE HILLS	Exposures along the road between Hamilton Pool and the Shingle Hills in western Travis County, Texas. Barnes, 1948, University of Texas Bureau of Economic Geology Report of Investigations No. 2
MULEROS	Exposures on Cerro de Muleros, west of El Paso, northwestern El Paso County, Texas. Keyes, 1922, Pan-American Geologist, Volume 38
CEDAR PARK	Exposures in quarries about 2 miles northwest of Cedar Park, Williamson County, Texas. Adkins, 1933, University of Texas Bulletin 3232
SHAFTER	Exposures at Shafter (U. S. Highway 67), southwestern Presidio County, Texas. Udden, 1904, University of Texas Mineralogical Survey Bulletin 8; Baker, 1927, University of Texas Bulletin 2745; Ross and Cartwright, 1935, University of Texas Bulletin 3401
QUITMAN	Exposures at Quitman Mountain and Quitman Gap, southwestern Hudspeth County, Texas. Taff, 1891, Texas Geological Survey 2nd Annual Report; Baker, 1927, University of Texas Bulletin 2745
BLUFF	Exposures at Bluff Mesa, El Paso County, Texas. Taff, 1891, Texas Geological Survey 2nd Annual Report; Baker, 1927, University of Texas Bulletin 2745
BLUFF MESA	Probably the same as preceding entry (Bluff). Exposures at Bluff Mesa, the western extension of Devil Ridge, 2 miles southeast of Sierra Blanca, El Paso County, Texas. Taff, 1891, Texas Geological Survey 2nd Annual Report; Smith, 1940, Geological Society of America Bulletin, Volume 51, No. 4; Gillerman, 1953, U. S. Geological Survey Bulletin 987
BACON	Occurs in subsurface only. Named for the discovery well (A. J. Bacon No. 1, Tidewater Associated Oil Company and Seaboard Oil Company) of the New Hope oil field, in southeastern Franklin County, Texas. Jones, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 6
GILLESPIE	Exposures in Gillespie County, Texas. Hill and Vaughan, 1898, U. S. Geological Survey 18th Annual Report, Part 2
THORP SPRINGS	Exposures at Thorp Springs (Texas Highway 4), north-central Hood County, Texas. Hill, 1891, Geological Society of America Bulletin, Volume 2
YUCCA	Exposures on Yucca Mesa, El Paso County, Texas. Taff, 1891, Texas Geological Survey 2nd Annual Report; Baker, 1927, University of Texas Bulletin 2745
MAXON	Exposures at Maxon Station, where the Southern Pacific Railroad leaves the Marathon Basin, in northeastern Brewster County, Texas. Baker and Bowman, 1917, University of Texas Bulletin 1753 (first describers, but age not discussed); Stanton, 1928, American Journal of Science, 5th Series, Volume 16, King, 1930, University of Texas Bulletin 3038

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
COX	Exposures at Cox Mountain, El Paso County, Texas. Richardson, 1904, University of Texas Mineralogical Survey Bulletin 9; Baker, 1927, University of Texas Bulletin 2745
BLUFF DALE	Occurs in subsurface only, in artesian wells at Bluff Dale, Erath County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
HENSELL	Exposures on a Mr. Hensell's property at Travis Peak post office, Burnet County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
ESPY	Exposures on the Espy Ranch, southeastern part of Devil Ridge, southeast of Sierra Blanca, in southern Hudspeth County, Texas. Huffington, 1943, Geological Society of America Bulletin, Volume 54, No. 7
ETHOLEN	Exposures in the Etholen Knobs northwest of the Etholen railroad section house, and in nearby small hills south of the railroad, in southwestern Hudspeth County, Texas. Taff, 1891, Texas Geological Survey 2nd Annual Report; Baker, 1927, University of Texas Bulletin 2745
CAMPAGRANDE	Exposures at Campagrande Draw in the Finlay Mountains, El Paso County, Texas. Richardson, 1904, University of Texas Mineralogical Survey Bulletin 9; Baker, 1927, University of Texas Bulletin 2745
PRESIDIO	Exposures west of the new shaft of the Presidio Mining Company, Presidio County, southwest Texas. Udden, 1904, University of Texas Mineralogical Survey Bulletin 8; Ross and Cartwright, 1935, University of Texas Bulletin 3401, Part 3
SYCAMORE	Exposures along Sycamore Creek, Burnet County, Texas. Hill, 1901, U. S. Geological Survey 21st Annual Report, Part 7
TORCER	Exposures at Torcer Station (formerly Malone) on the Southern Pacific Railroad west of Sierra Blanca (U. S. Highway 80), in southwestern Hudspeth County, Texas. Adkins, 1933, University of Texas Bulletin 3232
PEARSALL	Occurs in subsurface only, in Amerada Petroleum Corporation's Halff and Oppenheimer well No. 8, in the Pearsall oil field about 10 miles southwest of Pearsall, central Frio County, Texas. Imlay, 1944, U. S. Geological Survey Oil and Gas Investigations Preliminary Chart 3

OKLAHOMA

SILO	Exposures at Silo, Bryan County, Oklahoma. Taff, 1902, U. S. Geological Survey Atoka Folio No. 79
CAMP SUPPLY	Exposures near Camp Supply, Custer? County, Oklahoma. Hill, 1895, American Journal of Science, 3rd Series, Volume 50

OKLAHOMA

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
COMET CREEK	Exposures along Comet Creek, Custer County, Oklahoma, Hill, 1895, American Journal of Science, 3rd Series, Volume 50
MARIETTA	Exposures at Marietta, eastern Love County, Oklahoma. Hill, 1894, Geological Society of America Bulletin, Volume 5; 1901, U. S. Geological Survey 21st Annual Report, Part 7; Stephenson, 1918, U. S. Geological Survey Professional Paper 120H
BAUM	Exposures on the hill in the NE 1/4, SE 1/4, Sec. 36, T. 3 S., R. 3 E., 1.2 mile east of Baum, eastern Carter County, Oklahoma. Wayland, 1954, American Association of Petroleum Geologists Bulletin, Volume 38, No. 11; Taff, 1903, U. S. Geological Survey Folio 98; Tomlinson, 1926, American Association of Petroleum Geologists Bulletin, Volume 10; 1952, Ardmore Geological Society Field Trip Guidebook
ANTLERS	Exposures at Antlers, Pushmataha County, Oklahoma. Hill, 1894, Geological Society of America Bulletin, Volume 5; 1901, U. S. Geological Survey 21st Annual Report, Part 7

LOUISIANA

LAKE CHARLES	Exposures at Lake Charles, eastern Calcasieu Parish, Louisiana. Price, 1939, (abst.), American Association of Petroleum Geologists Bulletin, Volume 23, No. 12
LE MOYEN	Occurs in water wells near the town of Le Moyen on U. S. Highway 71 (T. 3 S., R. 4 E.), northwestern St. Landry Parish, Louisiana. Jones, in Jones, Turcan, and Skibitzke, 1954, Louisiana Geological Survey Bulletin 30
LEBEAU	Occurs in subsurface beneath the town of Lebeau, at the junction of U. S. Highway 71 and Louisiana Highway 10 (T. 4 S., R. 5 E.), in central St. Landry Parish, Louisiana. Jones, in Jones, Turcan, and Skibitzke, 1954, Louisiana Geological Survey Bulletin 30
MERMENTAU	Exposures along the Mermentau River east of the town of Cameron, southwestern Cameron Parish, Louisiana. Jones, in Jones, Turcan, and Skibitizke, 1954, Louisiana Geological Survey Bulletin 30
PORT HUDSON	Exposures at Port Hudson, northwestern corner of East Baton Rouge Parish, Louisiana. Hilgard, 1869, American Journal of Science, 2nd Series, Volume 47; 1869, American Journal of Science, 2nd Series, Volume 48; 1869, Preliminary Report on the Geological Reconnaisance of Louisiana; Johnson, 1905, U. S. G. S. Water Supply Paper 114; Crider and Johnson, 1906, U. S. G. S. Water Supply Paper 159; Lowe, 1925, Mississippi Geological Survey Bulletin 20; Stephenson, Logan, and Waring, 1928, U. S. G. S. Water Supply Paper 576
PONTCHARTRAIN	Exposures on the north shore of Lake Pontchartrain in Tangipahoa and St. Tammany Parishes, Louisiana. Johnson, 1891, Geological Society of America Bulletin, Volume 2; Harris and Veatch, 1899, Louisiana Geological Survey Re-

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	port for 1899, Part 5; Harris, 1905, Louisiana Geological Survey Bulletin 1; Johnson, 1905, U. S. G. S. Water Supply Paper 114
FOLEY	Occurs in water wells in the vicinity of Oakdale (T. 3 S., R. 3 W.), northeastern Allen Parish, Louisiana. Named for the town of Foley, in central Allen Parish, Louisiana. Jones, in Jones, Turcan, and Skibitzke, 1954, Louisiana Geological Survey Bulletin 30
MAMOU	Occurs in water wells near Mamou (T. 5 S., R. 1 E.) on Louisiana Highway 13, south-central Evangeline Parish, Louisiana. Jones, in Jones, Turcan, and Skibitzke, 1954, Louisiana Geological Survey Bulletin 30
STEEP GULLY	Occurs in water wells in the vicinity of Elizabeth (T. 2 S., R. 4 W.) on Louisiana Highway 112, in northern Allen Parish, Louisiana. Named for Steep Gully Branch, a nearby stream. Jones, in Jones, Turcan, and Skibitzke, 1954, Louisiana Geological Survey Bulletin 30
BLOUNTS CREEK	Exposures on the northern slope of Blounts Creek, south of Hineston, western Rapides Parish, Louisiana. Fisk, 1940, Louisiana Geological Survey Bulletin 18
CASTOR CREEK	Type locality occurs in an old hand-dug well in the center of the SE 1/4, NW 1/4, Sec. 27, T. 3 N., R. 2 W.; surface exposures occur along the southern valley wall of Castor Creek in townships 3 and 4 N., R. 2 W., Rapides Parish, Louisiana. Fisk, 1940, Louisiana Geological Survey Bulletin 18
WILLIAMSON CREEK	Exposures within the drainage area of the headwaters of Williamson Creek, south of the Dough Hills, in northwestern Rapides Parish, Louisiana. Fisk, 1940, Louisiana Geological Survey Bulletin 18
DOUGH HILLS	Exposures in the Dough Hills (T. 4 N., R. 4 and 5 W.), northwestern Rapides Parish, Louisiana. Fisk, 1940, Louisiana Geological Survey Bulletin 18
CARNAHAN BAYOU	Exposures in road cuts along U. S. Highway 71 W near Carnahan Bayou, south of Lena, Rapides Parish, Louisiana. Fisk, 1940, Louisiana Geological Survey Bulletin 18
LENA	Exposures along U. S. Highway 71W near Lena (Sec. 34, T. 6 N., R. 4 W.), Rapides Parish, Louisiana. Fisk, 1940, Louisiana Geological Survey Bulletin 18
CASSEL HILL	Exposures in the vicinity of Cassel Hill (NE 1/4, Sec. 9, T. 10 N., R. 5 E.), northwestern Catahoula Parish, Louisiana. Chawner, 1936, Louisiana Geological Survey Bulletin 9
CHALK HILLS	Exposures in the Chalk Hills (Sections 7, 16, 17, 18, and 21, T. 10 N., R. 5 E.), northwestern Catahoula Parish, Louisiana. Chawner, 1936, Louisiana Geological Survey Bulletin 9
NASH CREEK	Exposures in the cut bank of the west side of Nash Creek and adjacent Kansas City Southern Railroad cut, near the center of the NE 1/4, Sec. 6, T. 4 N., R. 10 W., Sabine Parish, Louisiana. Andersen, Louisiana Geological Survey Bulletin 34

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
KIMBREL	Exposures on the T. W. Kimbrel estate, south of Montgomery, Grant Parish, Louisiana. Casey, 1902, Science, no Series, Volume 15
ZENORIA	Exposures along the bank of an unnamed creek one mile northeast of Zenoria (SE 1/4, Sec. 13, T. 9 N., R. 1 E.), western LaSalle Parish, Louisiana. Fisk, 1938, Louisiana Geological Survey Bulletin 10
MOSSY RIDGE	Exposures on Mossy Ridge in Sections 4 and 5, T. 8 N., R. 3 W., in northwestern Grant Parish, Louisiana. Fisk, 1938, Louisiana Geological Survey Bulletin 10
MYATT	Exposures at Myatt Landing (formerly Wyant Landing) on the west bank of the Ouachita River, in the northeast corner of the SW 1/4, NE 1/4, Sec. 4, T. 11 N., R. 4 E., Caldwell Parish, Louisiana. Huner, Louisiana Geological Survey Bulletin 15
BAYOU CALAMUS	Exposures in ravines at the head of Bayou Calamus, seventy-five yards east of the road, in the SW 1/4, NW 1/4, Sec. 24 T. 12 N., R. 4 E., Caldwell Parish, Louisiana. Huner, Louisiana Geological Survey Bulletin 15
SADDLE BAYOU	Exposures along a secondary road crossing a tributary of Saddle Bayou, in the NW 1/4 of Sec. 20, T. 9 N., R. 2 W., in northern Grant Parish, Louisiana. Fisk, 1938, Louisiana Geological Survey Bulletin 10
UNION CHURCH	Exposures at Union Church, in the center of Sec. 30, T. 10 N., R. 2 E., northwestern LaSalle Parish, Louisiana. Fisk, 1938, Louisiana Geological Survey Bulletin 10
MONTGOMERY	Exposures at Montgomery Landing on the northeast bank of the Red River in western Grant Parish, Louisiana. Casey, 1902, Science, no Series, Volume 15
WOOLEY'S BLUFF	Exposures in the bluff back of the old Wooley home on Caney Creek, in Sec. 4, T. 3 N., R. 12 W., Sabine Parish, Louisiana. Ellisor, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 11; Renick, 1936, University of Texas Bulletin 3619
YOUNG'S BLUFF	Exposures on the estate of John Young, south of Montgomery, western Grant Parish, Louisiana, Casey, 1902, Science, no Series, Volume 15
CREOLA	Exposures at Creola, at Creola Bluff on the Red River, near Montgomery, western Grant Parish, Louisiana. Stenzel, 1939, Texas University Bureau of Economic Geology Publication No. 3945, Part 2 (1940)
ST. MAURICE	Exposures at St. Maurice on U. S. Highway 71, southwestern Winn Parish, Louisiana. Harris, 1910, Science, no Series, Volume 31; Spooner, 1926, American Association of Petroleum Geologists Bulletin, Volume 10, No. 1
ARCADIA	Exposures at Arcadia, on U.S. Highway 80, Bienville Parish, Louisiana. Lerch, Louisiana Geological Survey, Part 2

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
MINDEN	Exposures in the vicinity of Minden, southeast-central Webster Parish, Louisiana. Whittemore, 1927, Louisiana Geological Survey Bulletin 14; 1928, Louisiana Geological Survey Bulletin 16; 1929, Louisiana Geological Survey Bulletin 19; Campbell and Miller, 1928, American Association of Petroleum Geologists Bulletin, Volume 12, No. 10; Ellisor, 1929, American Association of Petroleum Geologists Bulletin, Volume 13, No. 10, Shearer, 1930, American Association of Petroleum Geologists Bulletin, Volume 14, No. 4; Howe, 1933, American Association of Petroleum Geologists Bulletin, Volume 17, No. 6
MOUNT LEBANON	Exposures at Mount Lebanon, north-central Bienville Parish, Louisiana. Shearer, 1930, American Association of Petroleum Geologists Bulletin, Volume 14, No. 4
LITTLE NATCHES	Exposures in the southwest corner of the NE 1/4, NE 1/4, Sec. 15, T. 9 N., R. 6 W., along U. S. Highway 71, approximately 1/4 mile southeast of Little Natches Bayou, in southwestern Winn Parish, Louisiana. Huner, 1939, Louisiana Geological Survey Bulletin 15
SALINE BAYOU	Exposures at the mouth of Saline Bayou at St. Maurice, southwestern Winn Parish, Louisiana. Ellisor, 1929, American Association of Petroleum Geologists Bulletin, Volume 13; Huner, 1939, Louisiana Geological Survey Bulletin 15
MILAMS	Exposures along the Arkansas Southern Railroad in NE 1/4, Sec. 17, T. 13 N., R. 3 W., one-half to three-fourths mile southwest of Milams, Winn Parish, Louisiana. Ellisor, 1929, American Association of Petroleum Geologists Bulletin, Volume 13; Huner, 1939, Louisiana Geological Survey Bulletin 15
DODSON	Named for the town of Dodson (Sec. 27, T. 13 N., R. 3 W.) in north-central Winn Parish, Louisiana. Type locality occurs in NW 1/4, SE 1/4, Sec. 17, T. 13 N., R. 3 W., in a scarp on the west bank of Antwine Creek, Winn Parish, Louisiana. Huner, 1939, Louisiana Geological Survey Bulletin 15
MANSFIELD	Exposures near Mansfield, DeSoto Parish, Louisiana. Hilgard, 1869, American Journal of Science, 2nd Series, Volume 48; 1869, Preliminary Report on the Geological Reconnaisance of Louisiana; Hopkins, 1870, Louisiana Geological Survey 1st Annual Report; 1871, Louisiana Geological Survey 2nd Annual Report
PIERSON	Exposures near the railroad station at Pierson, just north of Natchitoches, in northeastern Natchitoches Parish, Louisiana. Wasem and Wilbert, 1943, Journal of Paleontology, Volume 17, No. 2 (footnote-name appears first in field notes of Justin Rukas of the Louisiana Geological Survey); Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1
PENDLETON FERRY	Exposures in the cut bank (west bank) of the Sabine River opposite old Pendleton Ferry (Louisiana side), in eastern Sabine County, Texas. Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1 (footnote)

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
HIGH BLUFF	Exposures at High Bluff on the Sabine River in SW 1/4, SW 1/4, Sec. 3, T. 5 N., R. 13 W., Sabine Parish, Louisiana. Wasem and Wilbert, 1943, Journal of Paleontology, Volume 17, No. 2
SLAUGHTER CREEK	Exposures along the banks of Slaughter Creek in the southwest corner of Sec. 26, T. 6 N., R. 13 W., in Sabine Parish, Louisiana. Wasem and Wilbert, 1943, Journal of Paleontology, Volume 17, No. 2
BEULAH CHURCH	Exposures at Beulah Church just south of the Many-Pendleton highway in Sections 26 and 27, T. 6 N., R. 13 W., in Sabine Parish, Louisiana. Wasem and Wilbert, 1943, Journal of Paleontology, Volume 17, No. 2
STONE COAL BLUFF	Exposures at Stone Coal Bluff on the Sabine River, in SW 1/4, Sec. 33, T. 6 N., R. 13 W., in Sabine Parish, Louisiana. Wasem and Wilbert, 1943, Journal of Paleontology, Volume 17, No. 2
BAYOU LA NANA	Exposures along the south bank of Bayou La Nana in Sec. 12, T. 6 N., R. 13 W., in Sabine Parish, Louisiana. Wasem and Wilbert, 1943, Journal of Paleontology, Volume 17, No. 2
LIME HILL	Exposures on and near Lime Hill, along Louisiana Highway 174, 2.6 miles northeast of Pleasant Hill, in northeastern Sabine Parish, Louisiana. Meagher and Aycock, 1942, Louisiana Geological Survey Pamphlet 3; Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1
CONVERSE	Exposures along Louisiana Highway 174 in the vicinity of Converse, extending from the city limits westward for 1.7 mile (Sections 8 and 9, T. 9 N., R. 13 W.), in northwestern Sabine Parish, Louisiana. Andersen, 1960, Louisiana Geological Survey Bulletin 34
COW BAYOU	Exposures along Cow Bayou, a tributary of the Sabine River, in the SE 1/4, Sec. 9, and the NW 1/4, Sec. 16, T. 10 N., R. 14 W., 3 miles southeast of Hunter, in southwestern DeSoto Parish, Louisiana. Meagher and Aycock, 1942, Louisiana Geological Survey Pamphlet 3; Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1; Andersen, 1960, Louisiana Geological Survey Bulletin 34
LULA	Exposures in road cuts and gullies in the W 1/2, Sec. 11, T. 10 N., R. 14 W., along Louisiana Highway 747, 1/2 to 1 1/2 mile north of the village of Lula, southwestern DeSoto Parish, Louisiana. Murray, 1948, Louisiana Geological Survey Bulletin 25
BENSON	Exposures in a road cut on the north side of Louisiana Highway 745, .5 to .6 mile west of Benson, in SW 1/4, NE 1/4, Sec. 9, T. 10 N., R. 13 W., in southern DeSoto Parish, Louisiana. Murray, 1948, Louisiana Geological Survey Bulletin 25
BISTENEAU	Exposures in Sections 9 and 10, T. 15 N., R. 10 W., along Louisiana Highway 154, from Ringgold to Lake Bisteneau, in southwestern Bienville Parish, Louisiana. Meagher and Ay-

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	cock, 1942, Louisiana Geological Survey Pamphlet 3; Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1
GRAND BAYOU	Exposures in Sections 19, 20, 29, and 30, T. 14 N., R. 9 W., along Grand Bayou, in Red River Parish, Louisiana. Meagher and Aycock, 1942, Louisiana Geological Survey Pamphlet 3; Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1
LOGGY BAYOU	Exposures at and near Yellow Bluff, in the NW 1/4, Sec. 8, and the SW 1/4 of Sec. 5, T. 14 N., R. 10 W., near the junction of Love Lake and Loggy Bayou, in Red River Parish, Louisiana. Meagher and Aycock, 1942, Louisiana Geological Survey Pamphlet 3; Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1
DOLET HILLS	Exposures in the Dolet Hills south of Naborton (U. S. Highway 84), in southeast-central DeSoto Parish, Louisiana. Meagher and Aycock, 1942, Louisiana Geological Survey Pamphlet 3; Murray and Thomas, 1945, American Association of Petroleum Geologists Bulletin, Volume 29, No. 1; Andersen, 1960, Louisiana Geological Survey Bulletin 34
CHAMARD LAKE	Exposures one mile northwest of Chamard Lake at Coal Bed Springs, in the bluffs facing Dolet Brake and Dolet Bayou, NW 1/4, Sec. 3, T. 11 N., R. 11 W., 2 1/2 miles southwest of Evelyn, in DeSoto Parish, Louisiana. Meagher and Aycock, 1942, Louisiana Geological Survey Pamphlet 3; Murray, 1948, Louisiana Geological Survey Bulletin 25
ZWOLLE	Occurs in subsurface in the Zwolle oil field near Zwolle (U. S. Highway 171), in northwestern Sabine Parish, Louisiana. Kamb, 1931, American Association of Petroleum Geologists Bulletin, Volume 15, No. 10
BAYOU CHICOT	Exposures about 8 miles southwest of Bayou Chicot Post Office, in Evangeline Parish, Louisiana. Harris and Veatch, 1899, Louisiana Geological Survey Report for 1899, Part 5; Barton, 1936, (letter dated December 23), Bayou Chicot of Harris and Veatch, 1899, is cap rock limestone of Pine Prairie salt dome
ST. LANDRY	Exposures along Nezpique and Bobby Bayou, formerly included in St. Landry Parish, south-central Louisiana. St. Landry Parish was divided into Evangeline Parish to the west and St. Landry Parish to the east. Nezpique Bayou now forms the boundary between Acadia and Jefferson Davis Parishes. Bayou Nezpique rises in southwestern Evangeline Parish. Hilgard, 1873, Supplementary and Final Report of the Geological Reconnaisance of Louisiana
WINNFIELD	Exposed as cap rock around salt plugs near Winnfield, east-central Winn Parish, Louisiana. Harris and Veatch, 1899, Louisiana Geological Survey Report for 1899, Part 5
DILLON	Producing horizon in the Dillon No. 43 well, Pine Island oil field, Caddo Parish, Louisiana. Crider, 1929, American Association of Petroleum Geologists Structure Symposium, Volume 2

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
DIXIE	Non-geographic name for an oil producing horizon of Trinity age in the Pine Island oil field, Caddo Parish, Louisiana. Crider, 1929, American Association of Petroleum Geologists Bulletin, Volume 2
CADDO LEVEE BOARD	Non-geographic name for an oil producing horizon of Trinity age in the Pine Island oil field, Caddo Parish, Louisiana. Ivy, 1936, Oil and Gas Journal, Volume 34, No. 48, April
HERNDON	Oldest producing horizon in the Texas Company's Herndon No. A6 well, in the Pine Island oil field, Caddo Parish, Louisiana. Crider, 1929, American Association of Petroleum Geologists Structure Symposium, Volume 2
BODCAW	Occurs in subsurface in Ohio Oil Company's Bodcaw Lumber Co. No. 1 well, and Cotton Valley Operators Committee Ohio-Gleason No. 6 well, in Sec. 28, T. 21 N., R. 10 W., in Webster Parish, Louisiana. Named for Bodcaw Bayou which forms the boundary between the northern portion of Bossier and Webster Parishes, Louisiana. Ross, 1930, American Association of Petroleum Geologists Bulletin, Volume 14, No. 14; Sloane, 1958, Louisiana Geological Survey Bulletin 33
MOREHOUSE	Occurs in subsurface in Union Producing Company's Tensas Delta No. 1-A well in Sec. 8, T. 22 N., R. 4 E., in Morehouse Parish, Louisiana. Imlay, 1940, Arkansas Geological Survey Information Circular 12

PRAIRIE D' ANE	Exposures in Prairie d' Ane at Prescott, northwestern Nevada County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
PRAIRIE DE ROAN	Exposures in Prairie de Roan at Hope, southeast-central Hempstead County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
RED RIVER	Exposures in the Red River Valley at Fulton, southwestern Hempstead County, Arkansas. Hill, 1888, Arkansas Geological Survey Report for 1888, Volume 2; Dane, 1929, Arkansas Geological Survey Bulletin 1
CENTRE POINT	Exposures at Centre Point, north-central Howard County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
MARKS-MILLS	Exposures at Marks-Mills battlefield, Cleveland County, Arkansas. Harris, 1894, American Journal of Science, 3rd Series, Volume 47; 1894, Arkansas Geological Survey Annual Report for 1892
REDFIELD	Exposures at Redfield (U. S. Highway 65), northwestern Jefferson County, Arkansas. Wilbert, 1953, Arkansas Division of Geology Bulletin 19

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
WHITE BLUFF	Exposures at White Bluff, a bend in the Arkansas River, approximately 4 miles east of Redfield, northwestern Jefferson County, Arkansas. Dall, 1898, U. S. Geological Survey 18th Annual Report, Part 2; Harris, 1894, Arkansas Geological Survey Annual Report for 1892, Volume 2; Wilbert, 1953, Arkansas Division of Geology, Bulletin 19
RISON	Exposures 1/4 mile west of Rison, in north-central Cleveland County, Arkansas. Wilbert, 1953, Arkansas Division of Geology, Bulletin 19
CANEY POINT	Exposures on the left bank of the Saline River at Caney Point, in the NE corner of NW 1/4, Sec. 6, T. 11 S., R. 9 W., in Cleveland County, Arkansas. Puri, 1952, Journal of Paleontology, Volume 26, No. 2; Wilbert, 1953, Arkansas Division of Geology, Bulletin 19
PASTORIA	Exposures in the Pastoria Quadrangle at White Bluff on the Arkansas River, in the E 1/2, Sections 19 and 30, T. 3 S., R. 10 W., in Jefferson County, Arkansas. Wilbert, 1953, Arkansas Division of Geology, Bulletin 19
MANCHESTER	Exposures at Manchester Landing near the mouth of L'Eau Frais, a tributary of the Ouachita River, in eastern Clark County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
LITTLE MISSOURI	Exposures at the mouth of the Little Missouri River, northwestern Nevada County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
CAMDEN	Exposures at Camden, Ouachita County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2; 1902, Franklin Institute Journal, Volume 154, No. 2
GRAVES	Occurs in subsurface only. Thirty-five feet thick, lying 460 feet below the top of the Nacatoch sand. Also called the "2400 ft." sand. Named for farm on which the first producer was drilled. Schneider, 1925, American Association of Petroleum Geologists Bulletin, Volume 9, No. 7
HIGH BLUFF	Exposures at High Bluff on the Ouachita River, 1 1/2 miles northeast of Arkadelphia, Clark County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2; Dane, 1929, Arkansas Geological Survey Bulletin 1
WASHINGTON	Exposures in Town Creek Valley at Washington (Arkansas Highway 4), in north-central Hempstead County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2; Veatch, 1906, U. S. Geological Survey Professional Paper 46; Dane, 1929, Arkansas Geological Survey Bulletin 1
BIG DECIPER	Exposures in bluffs along Big Deciper Creek, 6 miles south of Arkadelphia, Clark County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
COLUMBUS	Exposures at Columbus, Hempstead County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
MEAKIN	Occurs in subsurface only in a producing well on the Meakin farm, in the Smackover oil field. Also known as the Louann sand and Primm gas zone. Northern Union County, Arkansas. Schneider, 1924, American Institute of Mining and Metallurigical Engineers Transactions, Volume 70; 1925, American Association of Petroleum Geologists Bulletin, Volume 9, No. 7
ROCKY COMFORT	Exposures at Rocky Comfort, Little River County, in southwestern Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2; Dane, 1926, U. S. Geological Survey Press Bulletin 8823, Sept. 10; Stephenson, 1927, American Association of Petroleum Geologists Bulletin, Volume 11, No. 1; Dane, 1929, Arkansas Geological Survey Bulletin 1
WHITE CLIFFS	Exposures at White Cliffs on the Little River, northwestern Little River County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2; Dane, 1926, U. S. Geological Survey Press Bulletin 8823, Sept. 10; Stephenson, 1927, American Association of Petroleum Geologists Bulletin, Volume 11, No. 1; Dane, 1929, Arkansas Geological Survey Bulletin 1
BUCKRANGE	Exposures north of the village of Buckrange, Howard County, Arkansas. Dane, 1926, U. S. Geological Survey Press Bulletin 8823, Sept. 10; 1929, Arkansas Geological Survey Bulletin 1
BIG DE GRAY	Exposed in the bed of Big De Gray Creek, near McCaulley's, Clark County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
KOSTER	Exposures near the former residence of Nicholas Koster, in Sec. 13, T. 7 S., R. 21 W., Clark County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
BINGEN	Exposures near Bingen, Hempstead County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2; Veatch, 1906, U. S. Geological Survey Professional Paper 46
CENTERPOINT	Exposures at Centerpoint (Junction of Arkansas Highways 4 and 26), central Howard County, Arkansas. Hazzard, 1939, Shreveport Geological Society Guidebook 14th Annual Field Trip
MORRIS FERRY	Exposures at Morris Ferry on the Little River, on the northern boundary of Little River County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2; 1901, U. S.Geological Survey 21st Annual Report, Part 7
OPPELLO	Exposures on the farm of W. J. Sadler, in NE 1/2, SE 1/4, Sec. 2, T. 5 N., R. 17 W., about one mile west of Oppello (Arkansas Highway 9), in southwestern Conway County, Arkansas. Croneis and Billings, 1929, Journal of Geology, Volume 37; 1930, Arkansas Geological Survey Bulletin 3

ARKANSAS

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
BRAZIL BRANCH	Exposures in the valley of Brazil Branch, a tributary of Fourche la Fave River, in the W 1/2, SE 1/4, Sec. 29, T. 4 N., R. 17 W., about 3 miles southwest of Perryville, northeastern Perry County, Arkansas. Croneis and Billings, 1929, Journal of Geology, Volume 37; 1930, Arkansas Geological Survey Bulletin 3
CERRO GORDO	Exposures at Cerro Gordo, northwestern Little River County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
UPPER LITTLE RIVER	Exposures in banks and canyons of the Little River north of Cerro Gordo, northwestern Sevier County, Arkansas. Hill, 1888, Arkansas Geological Survey Annual Report for 1888, Volume 2
ULTIMA THULE	Exposures near Ultima Thule in the DeQueen Quadrangle, on the western boundary of Sevier County, Arkansas. Miser and Purdue, 1918, U. S. Geological Survey Bulletin 690B; Miser, 1927, American Association of Petroleum Geologists Bulletin, Volume 11, No. 5
DELIGHT	Exposures in a quarry just west of Wolf Creek, about 3 3/4 miles northwest of Delight, southeastern Pike County. Arkansas. Imlay, 1944, U. S. Geological Survey Oil and Gas Investigations Preliminary Chart 3
WESSON	Occurs in subsurface only in the Standard Oil Company of Louisiana's D. A. Zimmerman No. 1 well, in Sec. 29, T. 18 S., R. 16 W., near Wesson, southwestern Union County, Arkansas. Swain, 1944, American Association of Petroleum Geologists Bulletin, Volume 28, No. 5
WERNER	Occurs in subsurface only in the Gulf Refining Company's #49L Werner Saw Mill Company well, in the Louann District, Smackover oil field, northern Union County, Arkansas. Hazzard, Blanpied, and Spooner, 1947, Shreveport Geological Society 1945 Reference Report, Volume 2
LOUANN	Occurs in subsurface only. Named for Louann, southeastern Ouachita County, Arkansas. Type section occurs in Gulf Refining Company's #49L Werner Saw Mill Company well, in the Louann District, Smackover oil field, northern Union and southern Ouachita Counties, Arkansas. Hazzard, Blanpied, and Spooner, 1947, Shreveport Geological Society 1945 Reference Report, Volume 2

MISSOURI

BENTON	Exposures at Benton Ridge, Scott County, southeastern Missouri. Marbut, 1902, Missouri University Studies, Volume 1, No. 3
IDALIA	Exposures on Crowleys Ridge at Idalia, Stoddard County, southeastern Missouri. Marbut, 1902, Missouri University Studies, Volume 1, No. 3
PIKETON	Exposures at Piketon, Stoddard County, southeastern Missouri. Marbut, 1902, Missouri University Studies, Volume 1, No. 3

MISSOURI

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
BLOOMFIELD	Exposures in bluffs along the Mississippi River at Bloomfield, Stoddard County, southeastern Missouri. Keyes, 1894, Missouri Geological Survey, Volume 4
ZADOC	Exposures in a clay pit 0.9 mile east of the village of Zadock (spelling employed on topographic map of Bloomfield Quadrangle), in the center of the SW 1/4, SW 1/4, Sec. 12, T. 27 N., R. 10 E., Stoddard County, Missouri. McQueen originally applied the name Zadoc to a section just west of the village of Advance, in the NE 1/4, SW 1/4, NW 1/4, Sec. 10, T. 27 N., R. 11E., Advance Quadrangle, 4 miles east-northeast of Farrar's locality near Zadoc. Leighton, Weller, and McQueen. 1939, Kansas Geological Society Guidebook 13th Annual Field Conference; Farrar and McManamy, 1937, Missouri Geological Survey and Water Resources, Biennial Report to the 59th General Assembly; Stewart, 1942, The Mesozoic and Cenozoic Geology of Southeastern Missouri; Unpublished manuscript, Missouri Geological Survey and Water Resources; Grohskopf, 1955, Missouri Geological Survey and Water Resources, 2nd Series, Volume 37
COMMERCE	Exposures in and north of Commerce, Scott County, Missouri. Dake, 1918, Missouri Bureau of Geology and Mines, 2nd Series, Volume 15
EGYPT	Derivation of name uncertain. Probably named for the town of Egypt on Arkansas Highway 91, in western Craighead County, Arkansas. Keyes, 1915, Iowa Academy of Science Proceedings, Volume 22

KENTUCKY

HICKMAN	Exposures in bluffs along the Mississippi River at Hickman, southwestern Fulton County, Kentucky. Loughridge, 1888, Geological Survey of the Jackson's Purchase Region
GRAVES CREEK	Exposures along Graves Creek, Webster County, Kentucky. Glenn, 1912, Kentucky Geological Survey Report of Progress for 1910 and 1911
UNION	Exposures in western Union County, Kentucky. Glenn, 1912, Kentucky Geological Survey Report of Progress for 1910 and 1911; 1922, Kentucky Geological Survey, Series 6, Volume 5
PADUCAH	Exposures at Paducah, McCracken County, Kentucky. Fohs, 1907, Kentucky Geological Survey Bulletin 9
TENNESSEE RIVER	Exposures along the Tennessee River in Trigg, Calloway, Marshall, and McCracken Counties, Kentucky. Loughridge, 1888, Kentucky Geological Survey Report on the Jackson's Purchase Region; Fohs, 1907, Kentucky Geological Survey Bulletin 9

TENNESSEE

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
MEMPHIS	Exposures at Memphis, southwestern Shelby County, Tennessee. Safford and Killebrew, 1900, Elements of the Geology of Tennessee
MILAN	Exposures at Milan, southeastern Gibson County, Tennessee. Safford and Killebrew, 1900, Elements of the Geology of Tennessee
LAGRANGE	Exposures at Lagrange, Fayette County, Tennessee. Safford, 1864, American Journal of Science, 2nd Series, Volume 37
CRAINESVILLE	Exposures about 1 3/4 mile north of the village of Crainesville (formerly the R. Hannah property), Hardeman County, Tennessee. Harris, 1896, Bulletins of American Paleontology, Volume 1, No. 4; Lowe, 1919, Mississippi Geological Survey Bulletin 14; Whitlatch, 1936, Tennessee Academy of Science Journal, Volume 11, No. 2
MIDDLETON	Exposures at and near Middleton, southeastern Hardemen County, Tennessee. Safford, 1892, Geological Society of America Bulletin, Volume 3; 1892, American Geologist, Volume 9; Safford and Killebrew, 1900, Elements of the Geology of Tennessee; Harris, 1896, Bulletins of American Paleontology, Volume 1

MISSISSIPPI

BILOXI	Exposures at Biloxi, Harrison County, Mississippi. Johnson, 1891, Geological Society of America Bulletin, Volume 2
NATCHEZ	Exposures in the Mississippi River bluffs at Natchez, western Adams County, Mississippi. Chamberlin, 1896, American Geologist, Volume 17; Chamberlin and Salisbury, 1906, Textbook of Geology, Volume 3; Lowe, 1919, Mississippi Geological Survey Bulletin 14; 1925, Mississippi Geological Survey Bulletin 20; Stephenson, Logan, and Waring, 1928, U. S. Geological Survey Water Supply Paper 576
GRAHAM FERRY	Named for an old river crossing occurring between two bluffs on the west bank of the Pascagoula River (NW 1/4, NW 1/4, Sec. 38, T. 5 S., R. 7 W., and near the center of irregular Sec. 38, T. 5 S., R. 7 W.), in Jackson County, Mississippi. Brown, et al., 1944, Mississippi Geological Survey Bulletin 60
FORT ADAMS	Exposures along the road at the bluffs above Fort Adams, southwestern Wilkinson County, Mississippi. Mississippi Geological Society, 1940, Guidebook #1, Jackson to Recent Field Trip
HOMOCHITTO	Exposures along the Homochitto River in southwestern Franklin County, Mississippi. Brown and Guyton, 1943, Mississippi Geological Survey Bulletin 56
KNOXVILLE	Exposures at Knoxville, in southwestern Franklin County, Mississippi. Mississippi Geological Society, 1940, Guidebook #1, Jackson to Recent Field Trip; Brown and Guyton, 1943, Mississippi Geological Survey Bulletin 56

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
ELLISVILLE	Exposures at Ellisville, Jones County, Mississippi (Also referred to as Fort Adams). Johnson, 1893, Science, Volume 21; Matson, 1916, U. S. Geological Survey Professional Paper 98
MISSISSIPPI	Exposures in the Mississippi River Basin, especially in southern Mississippi. Dall, 1892, U. S. Geological Survey Bulletin 84
DAVION	Exposures in the bluff called La Roche a Davion (now Fort Adams) on Mississippi Highway 24, in southwestern Wilkinson County, Mississippi. Wailes, 1854, Report of the Agriculture and Geology of Mississippi; Lowe, 1915, Mississippi Geological Survey Bulletin 12
LIMESTONE CREEK	Exposures along Limestone Creek, a tributary of the Chickasawhay River, about 4 miles northwest of Waynesboro, north-central Wayne County, Mississippi. Hanna and Gravell, 1934, Shreveport Geological Society Guidebook 11th Annual Field Trip
HENNESSEY BAYOU	Exposures east of U. S. Highway 61 below the Illinois Central Railroad bridge, 2 1/4 miles south of the junction of U. S. Highways 61 and 80, in western Warren County, Mississippi. Tonti, 1955, Abstracts of Dissertations, Volume 15, No. 8
MADISON	Exposures near Madison, southern Madison County, Mississippi. Lowe, 1915, Mississippi Geological Survey Bulletin 12
DECATUR	Exposures near Decatur, north-central Newton County, Mississippi. Lowe, 1919, Mississippi Geological Survey Bulletin 14
SHONGALO	Exposures near Shongalo, in a railroad cut at Vaiden (Junction U. S. Highway 51 and Mississippi Highway 35), in southeastern Carroll County, Mississippi. Hilgard, 1860, Report on the Agriculture and Geology of Mississippi; Stephenson, Logan and Waring, 1928, U. S. Geological Survey Water Supply Paper 576
ENTERPRISE	Exposures along the Chunky River south of Enterprise, northwestern Clarke County, Mississippi. Meyer, 1885, American Journal of Science, 3rd Series, Volume 30; Lowe, 1915, Mississippi Geological Survey Bulletin 12
NOXUBEE	Exposures in Noxubee County, Mississippi. Mellen, 1950, Mississippi Geological Survey Bulletin 69
FLATWOODS	Exposures in low flat land in northeastern Mississippi, resembling the broad bottom of a large river and generally known as the "Flatwoods country." Hilgard, 1860, Report on the Agriculture and Geology of Mississippi
OKTIBBEHA	Exposures in Oktibbeha County, Mississippi, especially well developed at Starkville, in northeast-central Oktibbeha County. Stephenson, 1917, Washington Academy of Science Journal, Volume 7; Stephenson and Monroe, 1937, American Association of Petroleum Geologists Bulletin, Volume 21, No. 6

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
HOUSTON	Exposures at Houston, Chickasaw County, Mississippi. Hilgard, 1860, Report on the Agriculture and Geology of Mississippi
PRAIRIE ROCK	Exposures in a quarry on the southwest side of Bogue Chitto Creek, 1/2 mile east of Prairie Rock, northeastern Neshoba County, Mississippi. Eckel, 1905, U. S. Geological Survey Bulletin 243; Crider, 1905, U. S. Geological Survey Bulletin 260
COULTER'S FERRY	Exposures at Coulter's Ferry on Old Town Creek, near its confluence with the Tombigbee River, Monroe County, Mississippi. Hilgard, 1860, Report on the Agriculture and Geology of Mississippi
LITTLE BEAR	Exposures near the head of Little Bear Creek, one mile northeast of Iuka (U. S. Highway 72 and Mississippi Highway 25), in northwestern Tishomingo County, Mississippi. Mellen, 1937, Mississippi Geological Survey Bulletin 34
DANTZLER	Occurs in subsurface only, in Humble Oil and Refining Company's No. B-1 Dantzler well, in northwestern Jackson County, Mississippi. Hazzard, Blanpied, and Spooner, 1947, Shreveport Geological Society Reference Report for 1945, Volume 2;Nunnally and Fowler, 1954, Mississippi Geological Survey Bulletin 79

MOBILE BAY	Exposures along the shores of Mobile Bay, in Mobile and Baldwin Counties, Alabama. Smith, 1894, American Journal of Science, 3rd Series, Volume 47; Smith, Johnson, and Langdon, 1894, Alabama Geological Survey Report on the Coastal Plain
CONECUH	Named for exposures along the Conecuh River, in Covington, Conecuh, and Escambia Counties, Alabama. Smith, Johnson, and Langdon, 1894, Alabama Geological Survey Report on the Coastal Plain
OZARK	Exposures at Ozark, north-central Dale County, Alabama. Smith, 1892, Sketch of the Geology of Alabama; 1894, Alabama Geological Survey, Geologic Map of Alabama, explanatory chart; Smith, Johnson, and Langdon, 1894, Alabama Geological Survey Report on the Coastal Plain
GENEVA	Exposures in Geneva County, Alabama. Smith, 1894, Alabama Geological Survey, Geologic Map of Alabama, explanatory chart
ROBERTS	Exposures at Roberts (Alabama Highway 4), southeastern Escambia County, Alabama. Dall and Stanley-Brown, 1894, Geological Society of America Bulletin, Volume 5; Dall, 1903, Wagner Free Institute of Science Transactions, Volume 3, Part 6
DELIET	Exposures at Claiborne (U. S. Highway 84) on the Alabama River, in western Monroe County, Alabama. Named for the old Dellet Mansion in the town of Claiborne. Stenzel, 1952, Mississippi Geological Society Guidebook 9th Field Trip

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
ST. STEPHENS	Exposures in a bluff on the Tombigbee River at St. Stephens, northeastern Washington County, Alabama. Conrad, 1856, Philadelphia Academy of Natural Science Proceedings, Volume 7; Smith, 1894, Alabama Geological Survey Report on the Coastal Plain; 1903, 58th Congress, 1st Session Senatorial Executive Document 19; 1904, U. S. Geological Survey Bulletin 225; 1905, U. S. Geological Survey Bulletin 243; Brantley, 1920, Alabama Geological Survey Bulletin 22
WOODS BLUFF	Exposures at Woods Bluff on the Tombigbee River, near the northwest corner of Clarke County, Alabama. Heilprin, 1882, Philadelphia Academy of Natural Science Proceedings for 1881; Smith, 1883, Alabama Geological Survey Progress Report for 1881-82; 1887, U. S. Geological Survey Bulletin 43
GULLETTE BLUFF	Exposures at Gullette Bluff on Gravel Creek and the Alabama River, in Wilcox County, Alabama. Brantly, 1920, Alabama Geological Survey Bulletin 22, Part II
BLACK BLUFF	Exposures at Black Bluff on Sucarnoochee Creek, at its junction with the Tombigbee River, Sumter County, Alabama. Smith and Johnson, 1887, U. S. Geological Survey Bulletin 43
RUTLEDGE	Exposures at Rutledge, on Alabama Highway 10, in central Crenshaw County, Alabama. Smith, 1892, Sketch of the Geology of Alabama (36 page pamphlet)
PEROTE	Exposures in a road cut along U. S. Highway 29, 3.3 miles south of Perote (Junction of U. S. Highway 29 and Alabama Highway 15), in SW 1/4, NW 1/4, Sec. 25, T. 11 N., R. 23 E., in southern Bullock County, Alabama. Eargle, 1948, Southeastern Geological Society Guidebook 6th Field Trip
EUFALA	Exposures at Eufala, eastern Barbour County, Alabama. Smith, 1888, Alabama Geological Survey Report of Progress for 1884-88, geographic map of Alabama; Dall and Harris, 1891, U. S. Geological Survey Bulletin 84
PORTLAND	Exposures at Portland, south-central Dallas County, Alabama. Smith, 1903, 58th Congress, 1st Session Senatorial Executive Document 19; Adams, Butts, Stephenson, and Cooke, 1926, Alabama Geological Survey Special Report No. 14

VAN VALKENBURG	Exposures on Van Valkenburg Creek at Vero Beach, southeastern Indian River County, Florida. Sellards, 1940, Geological Society of America Bulletin, Volume 51, No. 3
MELBOURNE	Exposures at Melbourne, southeastern Brevard County, Florida. Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
PALM BEACH	Exposures in T. 45, R. 41, 12 miles west of Lantana (2 miles south of Lake Worth), in eastern Palm Beach County, Florida. Sanford, 1909, Florida Geological Survey 2nd Annual report; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
KEY WEST	Exposures on Key West and other Florida Keys, southwestern Monroe County, Florida, Sanford, 1909, Florida Geological Survey 2nd Annual Report; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
COFFEE MILL HAMMOCK	Exposures at Coffee Mill Hammock, southwestern Glades County, Florida. Sellards, 1919, Florida Geological Survey 12th Annual Report; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
BULLA STRIATA	Non-geographic name employed to distinguish the Pleistocene beds containing Venus cancellata and Bulla striata from Pliocene beds containing the same species. Dall, 1892, U. S. Geological Survey Bulletin 84
LOSTMANS RIVER	Exposures along Lostmans River, northwestern Monroe County, Florida. Sanford, 1909, Florida Geological Survey 2nd Annual Report; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
EVERGLADES	Exposures around, in, and underlying the Everglades of southern Florida. Dall, 1892, U. S. Geological Survey Bulletin 84
ARCHER	Exposures at Archer, southwestern Alachua County, Florida. Scott, 1894, Geological Society of America Bulletin, Volume 5
PEACE CREEK	Exposures along Peace Creek (Peace River on State Maps), western DeSoto County, Florida. Dall, 1891, Philadelphia Academy of Science Proceedings for 1891; Matson and Clapp, 1909, Florida Geological Survey 2nd Annual Report
NASHUA	Exposures along the St. Johns River near Nashua, southeastern Putnam County, Florida. Matson and Clapp, 1909, Florida Geological Survey 2nd Annual Report; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report; Geological Society of America Bulletin, Volume 40
ARCADIA	Exposures on Mare Branch, a tributary of the Peace River, about 6 miles north of Arcadia, DeSoto County, Florida. Dall, 1892, U. S. Geological Survey Bulletin 84
BRISTOL	Exposures in the vicinity of Bristol (Junction of Florida Highways 12 and 20), northwestern Liberty County, Florida. Sellards, 1918, Florida Geological Survey 10th and 11th Annual Reports; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
DUNNELLON	Exposures at Dunnellon (U. S. Highway 41), southwestern Marion County, Florida. Sellards, 1910, Florida Geological Survey 3rd Annual Report; 1913, Florida Geological Survey 5th Annual Report; 1914, Florida Geological Survey 6th Annual Report; Hay, 1919, American Journal of Science, 4th Series, Volume 47; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
EUCHEE	Exposures near Eucheeanna, Walton County, Florida. Johnson, 1893, Science, Volume 21

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
PERMENTERS FARM	Exposures in an old road cut on the east bank of Alaqua Creek on the Permenter Farm, in Sec. 17, T. 1 N., R. 19 W., in south-central Walton County, Florida. Smith, 1941, American Association of Petroleum Geologists Bulletin, Volume 25, No. 2
ALAQUA	Exposures along Alaqua Creek, Walton County, Florida. Johnson, 1893, Science, Volume 21
WHITES CREEK	Exposures in a gully 200 feet south of the Knoxhill-Euchee-anna road, on the east bank of Whites Creek, north-eastern Walton County, Florida. Smith, 1941, American Association of Petroleum Geologists Bulletin, Volume 25, No. 2
JACKSONVILLE	Exposures in excavations made for the city waterworks at Jacksonville, Duval County, Florida. Dall, 1892, U. S. Geological Survey Bulletin 84; Matson and Clapp, 1909, Florida Geological Survey 2nd Annual Report; Matson, 1913, Carnegie Institute, Volume 4; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
MANATEE RIVER	Exposures at Rocky Bluff on the right bank of the Manatee River, a few miles upstream from Bradenton, western Manatee County, Florida. Dall, 1892, U. S. Geological Survey Bulletin 84; Matson and Clapp, 1909, Florida Geological Survey 2nd Annual Report; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
WALDO	Exposures near Waldo (U. S. Highway 301) in eastern Alachua County, Florida. Johnson, 1888, American Journal of Science, 3rd Series, Volume 36; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
APALACHIOCOLA	Exposures along the Apalachiocola River in northwestern Florida. Matson and Clapp, 1909, Florida Geological Survey 2nd Annual Report
SOPCHOPPY	Exposures at Sopchoppy (U. S. Highway 319) in southwestern Wakulla County, Florida. Dall, 1892, U. S. Geological Survey Bulletin 84; Gardner, 1926, U. S. Geological Survey Professional Paper 142A; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
WHITE BEACH	Exposures at a locality known in 1892 as "White Beach", at the northwestern end of Little Sarasota Bay, south of Tampa Bay, in western Manatee County, Florida. Dall, 1892, U. S. Geological Survey Bulletin 84
BALLAST POINT	Exposures at Ballast Point, Tampa, Hillsborough County, Florida. Dall, 1915, U. S. National Museum Bulletin 90
OCHEESEE	Exposures at Ocheesee (Florida Highway 69), in northeastern Calhoun County, Florida. Dall, 1892, U. S. Geological Survey Bulletin 84
WAKULLA	Exposures at Wakulla Springs (north of U. S. Highways 98 and 319), in eastern Wakulla County, Florida. Johnson, 1892, Geological Society of American Bulletin, Volume 3; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	FLORIDA
ASPALAGA	Exposures at Aspalaga, Liberty County, Florida. Foerste, 1894, American Journal of Science, 3rd Series, Volume 48; Dall and Stanley-Brown, 1894, Geological Society of America Bulletin, Volume 5; Maury, 1902, Bulletins of American Paleontology, Volume 3, No. 15; Matson and Clapp, 1909, Florida Geological Survey 2nd Annual Report; Matson, 1913, U. S. Geological Survey Water Supply Paper 319
BUMPNOSE	Exposures in a quarry near the Bumpnose road, near the center of W 1/2, Sec. 23, T. 5 N., R. 11 W., north of Marianna, central Jackson County, Florida. Moore, 1955, Florida Geological Survey Bulletin 37
GADSDEN	Occurs in subsurface only. Named for a 220 ft. section occurring in well W-4, City of Quincy water well (U. S. Highway 90), in north-central Gadsden County, Florida. Moore, 1955, Florida Geological Survey Bulletin 37
LEVYVILLE	Exposures at the old iron works near Levyville, Levy County, Florida. Johnson, 1888, American Journal of Science, 3rd Series, Volume 36
PENINSULAR	Exposures in Peninsular Florida. Dall, 1903, Wagner Free Institute of Science Transactions, Volume 3 Part 6; Cooke and Mossom, 1929, Florida Geological Survey 20th Annual Report
GULF HAMMOCK	Exposures in the vicinity of the town of Gulf Hammock (U. S. Highways 19 and 98), in south-central Levy County, Florida. Ericson, 1945, Science, Volume 102, No. 2644
	GEORGIA
SATILLA	Exposures along the Satilla River in northeastern Charlton and western Camden Counties, Georgia. Veatch and Stephenson, 1911, Georgia Geological Survey Bulletin 26
OKEFENOKEE	Exposures in the Okefenokee Swamp in parts of Charlton, Ware, and Clinch Counties, southeastern Georgia. Veatch and Stephenson, 1911, Georgia Geological Survey Bulletin 26
ALTAMAHA	Exposures in bluffs along the Altamaha River, between Rocky Hammock and Doctortown, Wayne County, Georgia. Dall, 1892, U. S. Geological Survey Bulletin 84
MARKS HEAD	Exposures at Mark's Head, a bluff on the Savannah River northwest of Porter's Landing, southeastern Effingham County, Georgia. Sloan, 1905, South Carolina Geological Survey geographic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Veatch and Stephenson, 1911, Georgia Geological Survey Bulletin 26; Cooke, 1936, U. S. Geological Survey Bulletin 867
PARACHUCLA	Exposures along the Savannah River in the vicinity of Parachucla, eastern Effingham County, Georgia. Sloan, 1905, South Carolina Geological Survey geognostic map of South

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
GRIFFIN	Exposures on Griffin's Creek, 4 1/2 miles south of Bainbridge, and about 1/2 mile west of the Griffin house, Decatur County, Georgia. Foerste, 1894, American Journal of Science, 3rd Series, Volume 48
WILEY'S LANDING	Exposures at Wiley's Landing on the Flint River, southwestern Decatur County, Georgia. Foerste, 1894, American Journal of Science, 3rd Series, Volume 48
JACKSONBORO	Exposures near the confluence of Brier and Beaver Dam Creeks, 3 miles below Jacksonboro, eastern Screven County, Georgia. Dall, 1892, U. S. Geological Survey Bulletin 84; 1903, Wagner Free Institute of Science Transactions, Volume 3, Part 6
BRIER CREEK	Exposures along Brier Creek near Jacksonboro, eastern Screven County, Georgia. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1908, South Carolina Geological Survey, Series 4, Bulletin 2; 1907, Summary of the Mineral Resources of South Carolina
BAINBRIDGE	Exposures east and west of Steamboat Landing on the Flint River at Bainbridge, Deactur County, Georgia. Foerste, 1894, American Journal of Science, 3rd Series, Volume 48
KEG CREEK	Exposures along Keg Creek, Washington County, Georgia. McCallie, 1919, Journal of Geology, Volume 27
SHELL BLUFF	Exposures at Shell Bluff on the Savannah River, 4 1/2 miles northeast of the village of Shell Bluff (Junction of Georgia Highways 23 and 80), in northeastern Burke County, Georgia. Conrad, 1866, American Journal of Science, 2nd Series, Volume 41; Vaughan, 1911, Georgia Geological Survey Bulletin 26; Cooke and Shearer, 1918, U. S. Geological Survey Professional Paper 120 C
FORT GAINES	Exposures at Fort Gaines on the Chattahoochee River, in western Clay County, Georgia. Smith, 1888, Alabama Geological Survey Report of Progress for 1884-88
RENFROES	Exposures at Renfroe (spelling used on commercial highway maps) on Georgia Highway 55, seven miles southeast of Cusseta, in southeastern Chattahoochee County, Georgia. Veatch, 1909, Georgia Geological Survey Bulletin 18; Veatch and Stephenson, 1911, Georgia Geological Survey Bulletin 26
ATKINSON	Occurs in subsurface only. Type locality designated as the Sun Oil Company's Doster-Ladson well No. 1, in Lot 71, Land District No. 7, Atkinson County, Georgia. Applin and Applin, 1947, U. S. Geological Survey Oil and Gas Investigations Preliminary Chart 26

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
ACCABEE	Exposures at Corn Hill near Accabee Flats, west of Charleston, Charleston County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
MYRTLE BEACH	Exposures at Myrtle Beach (Junction of U. S. Highways 17 and 501), in southeastern Horry County, South Carolina. Frey, 1952, American Journal of Science, Volume 250, No. 3
SEA ISLAND	Exposures on the islands off the coast of Charleston and Beaufort Counties, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
SIMMONS BLUFF	Exposures at Simmons Bluff on the Wadmalaw River, approximately 12 miles southwest of Rantowles, southwestern Charleston County, South Carolina. Dall, 1897, U. S. Geological Survey 18th Annual Report, Part 2; 1897, 55th Congress, 2nd Session, House Document 5
WANDO	Exposures along the Wando River south of the town of Wando, on the boundary between Berkeley and Charleston Counties, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
BOHICKET	Exposures in Bohicket Creek, near Rockville, Charleston County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
WADMALAW	Exposures along the Wadmalaw River, in southern Charleston County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
HAMPTON	Exposures in Hampton County, South Carolina. Sloan, 1905 South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
TEN MILE	Exposures at Ten Mile Hill on the Charleston-Lanes Railway (now Atlantic Coast Line Railroad), and at Ten Mile Hill on the Charleston-Branchville Railway (now South Carolina Railroad), in west-central Charleston County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
CHERAW	Exposures around Cheraw, northeastern Chesterfield County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1907, Handbook of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
GOOSE CREEK	Exposures at Yeaman's Hall on Goose Creek, north of Charleston, in southeastern Berkeley County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
COMBAHEE	Exposures along the Combahee River in Colleton County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
SALKEHATCHIE	Exposures along the Salkehatchie and Little Salkehatchie Rivers in northwestern Colleton County, South Carolina. Sloan, 1905, South Carolina Geological Survey goegnostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
EDISTO	Exposures along the Edisto River at the "Dividers," in Colleton County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Veatch and Stephenson, 1911, Georgia Geological Survey Bulletin 26; Vaughan, 1912, U. S. Geological Survey Professional Paper 71; Cooke, 1936, U. S. Geological Survey Bulletin 867
KINGS CREEK	Exposures south of King's Creek, in southeastern Barnwell County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
MOUNT HOPE	Exposures at Mount Hope on the Santee River, in northern Berkeley County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
CAW CAW	A local development of the McBean formation with exposures at Caw Caw Swamp, Orangeburg County, South Carolina. Sloan, 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
ORANGEBURG	Exposures on the Lang Syne Plantation near Fort Motte, old Orangeburg District, northeastern Calhoun County, South Carolina. Dall, 1897, U. S. House of Representatives Document, 55th Congress, 2nd Session; 1898, U. S. Geological Survey 18th Annual Report, Part 2; Cooke, 1936, U. S. Geological Survey Bulletin 867

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
BUHRSTONE	Non-geographic name applied to siliceous deposits of Middle Eocene age in Mississippi, Alabama, Georgia, and South Carolina. Name replaced by Tallahatta, McBean, and Upper Eocene Barnwell. Finch, 1824, American Journal of Science, 1st Series, Volume 7; Tuomey, 1848, Report on the Geology of South Carolina; 1850, Alabama Geological Survey 1st Biennial Report
WILLIAMSBURG	Exposures west of Rhems, in eastern Williamsburg County, South Carolina. Sloan, 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
RHEMS	Exposures at Rhems Landing on the west bank of Black Mingo Creek, 3 3/4 miles above the junction of the creek with the Black River, in northwestern Georgetown County, South Carolina. Sloan, 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
LANG SYNE	Exposures in Tomb Field Gulch on the Lang Syne Plantation, west of the junction of the Congaree and Wateree Rivers, in eastern Calhoun County, South Carolina. Sloan, 1908, South Carolina Geological Survey, Series 4, Bulletin 2; Cooke, 1936, U. S. Geological Survey Bulletin 867
BURCHES FERRY	Exposures at Burches Ferry on the west bank of the Peedee River, in Florence County, South Carolina. Sloan, 1905, South Carolina Geological Survey geognostic map of South Carolina, advance copies; 1907, Summary of the Mineral Resources of South Carolina; 1908, South Carolina Geological Survey, Series 4, Bulletin 2
AIKEN	Exposures at Aiken, north-central Aiken County, South Carolina. Sloan, 1908, South Carolina Geological Survey, Series 4, Bulletin 2

NORTH CAROLINA

KURE	Exposures at Kure Beach (U. S. Highway 421) north of Fort Fisher, approximately 19 miles south of Wilmington, southern New Hanover County, North Carolina. Wells, 1944, Elisha Mitchell Scientific Society Journal, Volume 60, No. 2
CASTALIA	Exposures at Castalia (North Carolina Highway 58), in northwestern Nash County, North Carolina. Wells, 1944, Elisha Mitchell Scientific Society Journal, Volume 60, No. 2
CHOWAN	Exposures along the Chowan River in Hertford County, North Carolina. Clark, 1910, Geological Society of American Bulletin, Volume 20; Stephenson, 1912, North Carolina Geological Survey, Volume 3; Cooke, 1931, Washington Academy of Science Journal, Volume 21
MURFREESBORO	Exposures at Murfreesboro and along the Meherrin River near Murfreesboro, northwestern Hertford County, North Carolina. Olsson, 1917, Bulletins of American Paleontology, Volume 5, No. 28; Clark and Miller, 1919, Virginia Geological Survey, Bulletin 4; Mansfield, 1929, Washington Academy of Science Journal, Volume 19; 1931, George Wash-

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	ington University Bulletin, Summaries of Doctoral Theses, 1925-1928
WILMINGTON	Probably named for exposures at Wilmington, western New Hanover County, North Carolina. Clark, 1891, U. S. Geological Survey Bulletin 83; Dall, 1898, U. S. Geological Survey 18th Annual Report, Part 2
	VIRGINIA
DISMAL SWAMP	Exposures in the Dismal Swamp District in Norfolk and Princess Anne Counties, southeastern Virginia. Wentworth, 1930, Virginia Geological Survey Bulletin 32; Cooke, 1931, Washington Academy of Science Journal, Volume 21; 1932, 16th International Geological Congress Guidebook No. 5
PRINCESS ANNE	Exposures at the village of Princess Anne, central Princess Anne County, Virginia. Stephenson, 1912, North Carolina Geological Survey Bulletin 3; Wentworth, 1930, Virginia Geological Survey Bulletin 32; Cooke, 1931, Washington Academy of Science Proceedings, Volume 21; Stephenson, Cooke, and Mansfield, 1932, 16th International Geological Congress Guidebook No. 5
FRANCONIA	Exposures at Franconia Station, 6 miles southwest of Alexandria, in eastern Fairfax County, Virginia. Ward, 1895, U. S. Geological Survey 15th Annual Report; Darton and Keith, 1901, U. S. Geological Survey Washington Folio, No. 70
APPOMATTOX	Exposures along and near the Appomattox River, from west of Petersburg, Dinwiddie County, to its mouth in Warwick and Isle of Wight Counties, Virginia. McGee, 1888, American Journal of Science, 3rd Series, Volume 35
NORFOLK	Exposures in excavations in the Dismal Swamp Canal, in western Norfolk County, Virginia. Clark and Miller, 1906, Virginia Geological Survey Bulletin 2, Part 1; Watson, 1909, Virginia Geological Survey Bulletin 1A
BERMUDA	Exposures at Bermuda Hundred on the James River, in Chesterfield County, Virginia. Clark, 1897, Maryland Geological Survey, Volume 1
VIRGINIAN	Exposures in the Virginia Coastal Plain. Heilprin, 1883, Philadelphia Academy of Natural Science Proceedings for 1882; 1884, Philadelphia Academy of Natural Science Journal, 2nd Series, Volume 9, Part 1
RICHMOND	Exposures in the vicinity of Richmond, Henrico County, Virginia. Clark, 1897, Maryland Geological Survey, Volume 1; Clark and Miller, 1906, Virginia Geological Survey Bulletin 2, Part 1
MOUNT VERNON	Exposures 1 mile below the Mount Vernon mansion, in the high bluff (called Rose's Delight) on the north shore of the Potomac River, in eastern Fairfax County, Virginia. Ward 1895, U. S. Geological Survey 15th Annual Report; Clark and Miller, 1912, Virginia Geological Survey Bulletin 4

VIRGINIA

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
BROOKE	Exposures in the vicinity of Brooke Station, 9 miles north of Fredericksburg, in northeastern Spotsylvania County, Virginia. Fontaine, 1889, U. S. Geological Survey Monograph 15; Ward, 1895, U. S. Geological Survey 15th Annual Report; 1905, U. S. Geological Survey Monograph 48; Clark and Miller, 1912, Virginia Geological Survey Bulletin 4
RAPPAHANNOCK	Exposures along the Rappahannock River in eastern Stafford and northeastern Spotsylvania Counties, Virginia. Ward, 1895, U. S. Geological Survey 15th Annual Report; Clark and Miller, 1912, Virginia Geological Survey Bulletin 4
JAMES RIVER	Exposures along the James River from Richmond to Dutch Gap Canal, a cut through the northeastern end of Ferrar's Island in the James River, in Henrico County, Virginia. Ward, 1895, U. S. Geological Survey 15th Annual Report; Clark and Miller, 1912, Virginia Geological Survey Bulletin 4

DISTRICT OF COLUMBIA

GOOD HOPE	Exposures at Good Hope Hill, Washington, D. C. Clark, 1890, Johns Hopkins University Circulars, Volume 9, No. 81
TENLEY	Exposures at Tenleytown, Washington, D. C. Wentworth, 1930, Virginia Geological Survey Bulletin 32

MARYLAND

MCHENRY	Exposures on the McHenry Plateau, Baltimore, Maryland, Uhler, 1901, Maryland Academy of Science Transactions, no Series, Volume 1
PARSONSBURG	Exposures at Parsonsburg (U. S. Highway 50), 6 miles east of Salisbury, eastern Wicomico County, Maryland. Rasmussen and Slaughter, 1955, Maryland Department of Geology, Mines, and Water Resources Bulletin 16
CORNFIELD HARBOR	Exposures on Cornfield Harbor, near Federalsburg, Caroline County, Maryland. Dall, 1897, 55th Congress, 2nd Session, House Document 5; 1898, U. S. Geological Survey 18th Annual Report, Part 2; Shattuck and Clark, 1906, Maryland Geological Survey, Pliocene-Pleistocene Volume; Mansfield, 192 , U. S. Geological Survey Professional Paper 150
WALSTON	Exposures along Walston Branch, a tributary of Beaverdam Creek, the eastern branch of the Wicomico River, in central Wicomico County, Maryland. Rasmussen and Slaughter, 1955. Maryland Department of Geology, Mines, and Water Resources Bulletin 16
BEAVERDAM	Exposures along Beaverdam Creek, the east branch of the Wicomico River, in central Wicomico County, Maryland. Rasmussen and Slaughter, 1955, Maryland Department of Geology, Mines, and Water Resources Bulletin 16
NORTH KEYS	Exposures in the vicinity of North Keys, a hamlet on the road from Brandywine to Naylor (Maryland Highway 525), in

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	southern Prince Georges County, Maryland. Hack, 1955, U. S. Geological Survey Professional Paper 267-A
PLUM POINT	Exposures at Plum Point, 5 miles south of Chesapeake Beach, on the west shore of Chesapeake Bay, northeastern Calvert County, Maryland. Shattuck, 1904, Maryland Geological Survey, Miocene text
FAIRHAVEN	Exposures at Fairhaven, Anne Arundel County, Maryland. Shattuck, 1904, Maryland Geological Survey, Miocene text
PINEY POINT	Occurs in subsurface only. Type locality designated as well St. M-Fe 24 on the Curtiss Steuart property at the tip of Piney Point Peninsular, 0.8 mile northeast of Piney Point lighthouse on the Potomac River, in southeastern St. Mary's County, Maryland. Otton, 1955, Maryland Department of Geology, Mines, and Water Resources Bulletin 15
FORT WASHINGTON	Exposures at Fort Washington, Prince Georges County, Maryland. Conrad, 1830, Philadelphia Academy of Natural Science Journal, Volume 6; Heilprin, 1884, Philadelphia Academy of Natural Science Journal, 2nd Series, Volume 9, Part 1
SEVERN	Exposures in cliffs at Round Bay on the Severn River, in eastern Anne Arundel County, Maryland. Darton, 1891, Geological Society of America Bulletin, Volume 2; 1893, American Journal of Science, 3rd Series, Volume 45; 1896, U. S. Geological Survey Bulletin 138
SASSAFRAS RIVER	Exposures along the Sassafras River in Cecil and Kent Counties, northeastern Maryland. McGee, 1888, U. S. Geological Survey 7th Annual Report; Miller, 1906, U. S. Geological Survey Dover Folio, No. 137; Miller, Mathews, Bibbins, and Little, 1917, U. S. Geological Survey Tolchester Folio, No. 204
ALBIRUPEAN	Non-geographic name applied to exposures near the mouth of the Severn River in Anne Arundel County, Maryland. Uhler, 1888, American Philosophical Society Proceedings, Volume 25; 1901, Maryland Academy of Science Transactions, no Series, Volume 1; Miller, Mathews, Bibbins, and Little, 1917, U. S. Geological Survey Tolchester Folio, No. 204
HAWKINS POINT	Exposures at Hawkins Point on the lower Patapsco River, Anne Arundel County, Maryland. Ward, 1895, U. S. Geological Survey 15th Annual Report
FEDERAL HILL	Exposures on Federal Hill, south Baltimore, Maryland. Ward, 1905, U. S. Geological Survey Monograph 48
BALTIMOREAN	Exposures in and around Baltimore, Maryland. Uhler, 1888, American Philosophical Society Proceedings, Volume 25; Miller, Mathews, Bibbins, and Little, 1917, U. S. Geological Survey Tolchester Folio No. 204

DELAWARE RIVER	Exposures along the west bank of the Delaware River in northwestern Newcastle County, Delaware. Hall, 1881, 2nd

DELAWARE

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	Pennsylvania Geological Survey Report C6; Chester, 1884, American Journal of Science, 3rd Series, Volume 27; Rand, 1900, Philadelphia Academy of Natural Science Proceedings, Part 1

PENNSYLVANIA

PHILADELPHIA	Exposures at Philadelphia, Philadelphia County, Pennsylvania. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32; Chester, 1884, American Journal of Science, 3rd Series, Volume 27; Bascom, Clark, Darton, et al., 1909, U. S. Geological Survey Philadelphia Folio No. 162
BRANCHTOWN	Exposures at the village of Branchtown, a suburb of Philadelphia, Philadelphia County, Pennsylvania. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32

NEW JERSEY

JAMESBURG	Exposures in the upper part of the railroad cut near Jamesburg, south-central Middlesex County, New Jersey. Salisbury, 1894, New Jersey Geological Survey Annual Report for 1893
FISH HOUSE	Exposures at Fish House on the Delaware River, about 5 miles north of Camden, Camden County, New Jersey. Salisbury, 1895, New Jersey Geological Survey Annual Report of the State Geologist for 1894; Woolman, 1897, New Jersey Geological Survey Annual Report of the State Geologist for 1896; Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6; Salisbury and Knapp, 1917, New Jersey Geological Survey, Volume 8
WOODMANSIE	Exposures at Woodmansie, on the southeastern edge of Lebanon State Forest (Northeast of New Jersey Highway 72), in eastern Burlington County, New Jersey. Salisbury and Knapp, 1917, New Jersey Geological Survey, Volume 8
GLASSBORO	Exposures at Glassboro, Gloucester County, New Jersey. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32; Salisbury and Knapp, 1917, New Jersey Geological Survey, Volume 8
BEACON HILL	Exposures on the summit of Beacon Hill, 3 miles south of Matawan, northwestern Monmouth County, New Jersey. Salisbury, 1898, New Jersey Geological Survey Annual Report of the State Geologist for 1897; Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6
MOUNT HOLLY	Exposures at Mount Holly, northwestern Burlington County, New Jersey. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32
SHILOH	Exposures at Shiloh (New Jersey Highway 49), northwestern Cumberland County, New Jersey. Dall and Harris, 1892, U. S. Geological Survey Bulletin 84; Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6; Clark,

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	southern Prince Georges County, Maryland. Hack, 1955, U. S. Geological Survey Professional Paper 267-A
PLUM POINT	Exposures at Plum Point, 5 miles south of Chesapeake Beach, on the west shore of Chesapeake Bay, northeastern Calvert County, Maryland. Shattuck, 1904, Maryland Geological Survey, Miocene text
FAIRHAVEN	Exposures at Fairhaven, Anne Arundel County, Maryland. Shattuck, 1904, Maryland Geological Survey, Miocene text
PINEY POINT	Occurs in subsurface only. Type locality designated as well St. M-Fe 24 on the Curtiss Steuart property at the tip of Piney Point Peninsular, 0.8 mile northeast of Piney Point lighthouse on the Potomac River, in southeastern St. Mary's County, Maryland. Otton, 1955, Maryland Department of Geology, Mines, and Water Resources Bulletin 15
FORT WASHINGTON	Exposures at Fort Washington, Prince Georges County, Maryland. Conrad, 1830, Philadelphia Academy of Natural Science Journal, Volume 6; Heilprin, 1884, Philadelphia Academy of Natural Science Journal, 2nd Series, Volume 9, Part 1
SEVERN	Exposures in cliffs at Round Bay on the Severn River, in eastern Anne Arundel County, Maryland. Darton, 1891, Geological Society of America Bulletin, Volume 2; 1893, American Journal of Science, 3rd Series, Volume 45; 1896, U. S. Geological Survey Bulletin 138
SASSAFRAS RIVER	Exposures along the Sassafras River in Cecil and Kent Counties, northeastern Maryland. McGee, 1888, U. S. Geological Survey 7th Annual Report; Miller, 1906, U. S. Geological Survey Dover Folio, No. 137; Miller, Mathews, Bibbins, and Little, 1917, U. S. Geological Survey Tolchester Folio, No. 204
ALBIRUPEAN	Non-geographic name applied to exposures near the mouth of the Severn River in Anne Arundel County, Maryland. Uhler, 1888, American Philosophical Society Proceedings, Volume 25; 1901, Maryland Academy of Science Transactions, no Series, Volume 1; Miller, Mathews, Bibbins, and Little, 1917, U. S. Geological Survey Tolchester Folio, No. 204
HAWKINS POINT	Exposures at Hawkins Point on the lower Patapsco River, Anne Arundel County, Maryland. Ward, 1895, U. S. Geological Survey 15th Annual Report
FEDERAL HILL	Exposures on Federal Hill, south Baltimore, Maryland. Ward, 1905, U. S. Geological Survey Monograph 48
BALTIMOREAN	Exposures in and around Baltimore, Maryland. Uhler, 1888, American Philosophical Society Proceedings, Volume 25; Miller, Mathews, Bibbins, and Little, 1917, U. S. Geological Survey Tolchester Folio No. 204

DELAWARE RIVER	Exposures along the west bank of the Delaware River in northwestern Newcastle County, Delaware. Hall, 1881, 2nd

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	DELAWARE
	Pennsylvania Geological Survey Report C6; Chester, 1884, American Journal of Science, 3rd Series, Volume 27; Rand, 1900, Philadelphia Academy of Natural Science Proceedings, Part 1
	PENNSYLVANIA
PHILADELPHIA	Exposures at Philadelphia, Philadelphia County, Pennsylvania. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32; Chester, 1884, American Journal of Science, 3rd Series, Volume 27; Bascom, Clark, Darton, et al., 1909, U. S. Geological Survey Philadelphia Folio No. 162
BRANCHTOWN	Exposures at the village of Branchtown, a suburb of Philadelphia, Philadelphia County, Pennsylvania. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32
	NEW JERSEY
JAMESBURG	Exposures in the upper part of the railroad cut near Jamesburg, south-central Middlesex County, New Jersey. Salisbury, 1894, New Jersey Geological Survey Annual Report for 1893
FISH HOUSE	Exposures at Fish House on the Delaware River, about 5 miles north of Camden, Camden County, New Jersey. Salisbury, 1895, New Jersey Geological Survey Annual Report of the State Geologist for 1894; Woolman, 1897, New Jersey Geological Survey Annual Report of the State Geologist for 1896; Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6; Salisbury and Knapp, 1917, New Jersey Geological Survey, Volume 8
WOODMANSIE	Exposures at Woodmansie, on the southeastern edge of Lebanon State Forest (Northeast of New Jersey Highway 72), in eastern Burlington County, New Jersey. Salisbury and Knapp, 1917, New Jersey Geological Survey, Volume 8
GLASSBORO	Exposures at Glassboro, Gloucester County, New Jersey. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32; Salisbury and Knapp, 1917, New Jersey Geological Survey, Volume 8
BEACON HILL	Exposures on the summit of Beacon Hill, 3 miles south of Matawan, northwestern Monmouth County, New Jersey. Salisbury, 1898, New Jersey Geological Survey Annual Report of the State Geologist for 1897; Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6
MOUNT HOLLY	Exposures at Mount Holly, northwestern Burlington County, New Jersey. Lewis, 1881, Philadelphia Academy of Natural Science Proceedings, Volume 32
SHILOH	Exposures at Shiloh (New Jersey Highway 49), northwestern Cumberland County, New Jersey. Dall and Harris, 1892, U. S. Geological Survey Bulletin 84; Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6; Clark,

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	Kummel, and Miller, 1909, U. S. Geological Survey Trenton Folio No. 167
ASBURY	Exposures west of Asbury Park, eastern Monmouth County, New Jersey. Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6
ALLOWAY	Exposures at Alloway (Junction of New Jersey Highways 540 and 581), in southwest-central Salem County, New Jersey. Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6
SQUANKUM	Exposures at Squankum (Junction of New Jersey Highways 547 and 549), in southeastern Monmouth County, New Jersey. Conrad, 1869, American Journal of Science, 2nd Series, Volume 47; New Jersey Geological Survey, 1912, Geologic Map of New Jersey
TIMBER CREEK	Type locality not designated. Probably named for exposures along a small creek (Timber Creek) which is tributary to Rancocas Creek, in northwestern Burlington County, New Jersey. Gabb and Horn, 1862, Philadelphia Academy of Natural Science Journal, 2nd Series, Volume 5
LONG BRANCH	Exposures at Long Branch, eastern Monmouth County, New Jersey. Weller, 1905, New Jersey Geological Survey Annual Report of the State Geologist for 1904; 1905, Journal of Geology, Volume 13
SEWELL	Exposures at Sewell, northwestern Gloucester County, New Jersey. Clark, Bagg, and Shattuck, 1897, Geological Society of America Bulletin, Volume 8
BAY VIEW AVENUE	Exposures at Bay View Avenue Station, near Atlantic Highlands, northeastern Monmouth County, New Jersey. Prather, 1905, American Geologist, Volume 36
COLUMBUS	Exposures at Columbus, northwestern Burlington, New Jersey. Knapp, in Salisbury, 1899, New Jersey Geological Survey Annual Report of the State Geologist for 1898; Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6
TRENTON	Exposures along Pond Run, two miles east of Trenton, southern Mercer County, New Jersey. Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6
OLD BRIDGE	Exposures at Old Bridge, southeast of Sayreville, northeastern Middlesex County, New Jersey. Barksdale, et al., 1943, New Jersey State Water Policy Commission Special Report No. 8
SAYREVILLE	Exposures at Sayreville, east of New Brunswick, northeastern Middlesex County, New Jersey. Barksdale, et al., 1943, New Jersey State Water Policy Commission Special Report No. 8
FARRINGTON	Exposures along the south shore of Farington Lake (between U. S. Highway 130 and the New Jersey Turnpike), south-southwest of New Brunswick, in northwestern Middlesex County, New Jersey. Barksdale, et al., 1943, New Jersey State Water Policy Commission Special Report No. 8

NEW JERSEY

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
AMBOY	Exposures at South Amboy, northeastern Middlesex County, New Jersey. Cook and Smock, 1877, New Jersey Geological Survey Map of the Clay District of Middlesex County; Cook, 1878, New Jersey Geological Survey Report on Clays
SOUTH AMBOY	Exposures at South Amboy, northeastern Middlesex County, New Jersey. Cooke and Smock, 1877, New Jersey Geological Survey Map of the Clay District of Middlesex County; Cook, 1878, New Jersey Geological Survey Report on Clays
CLIFFWOOD	Exposures at Cliffwood and at Cliffwood Point on the south shore of Raritan Bay, northeastern Middlesex County, New Jersey. Kummel and Knapp, 1904, New Jersey Geological Survey, Volume 6; Clark, 1904, American Journal of Science, 4th Series, Volume 18; 1904, Johns Hopkins University Circulars, Volume 23, No. 7
WOODBRIDGE	Exposures south of Woodbridge, northeastern Middlesex County, New Jersey. Cook and Smock, 1877, New Jersey Geological Survey Map of the Clay District of Middlesex County; Cook, 1878, New Jersey Geological Survey Report on Clays

NEW YORK

HARBOR HILL	Exposures at Harbor Hill, northwestern Nassau County, Long Island, New York. Woodworth, 1901, New York State Museum Bulletin 48; Veatch, 1903, Journal of Geology, Volume 11; Fuller, 1914, U. S. Geological Survey Professional Paper 82
HEMPSTEAD	Exposures along the west shore of Hempstead Harbor, northwestern Nassau County, Long Island, New York. Fuller, 1914, U. S. Geological Survey Professional Paper 82; Woodworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52; Wells, 1935, Geological Society of America Proceedings for 1934
MONTAUK	Exposures at the easternmost tip of Suffolk County, Long Island, New York. Named for Montauk Point. Fuller, 1905, Geological Society of America Bulletin, Volume 16; 1906, Science, no Series, Volume 24; 1914, U. S. Geological Survey Professional Paper 82; Woodworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52; Wells, 1935, Geological Society of America Proceedings for 1934
HEROD	Type locality not specified. Probably Herod Point on the north shore of Long Island, in north-central Suffolk County, New York. Fuller, 1905, Geological Society of America Bulletin, Volume 16; 1906, Science, no Series, Volume 24; Clapp, 1908, Geological Society of America Bulletin, Volume 18; Fuller, 1914, U. S. Geological Survey Professional Paper 82; Woodworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52; Wells, 1935, Geological Society of America Proceedings for 1934
PORT WASHINGTON	Exposures on the northern and western end of Manhasset Neck near Port Washington, northwestern Nassau County,

NEW YORK

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	Long Island, New York. Woodworth, 1901, New York State Museum Bulletin 48
TAPPAN	Exposures at Tappan, southeastern corner of Rockland County, New York. Woodworth, 1905, New York State Museum Bulletin 84
BETHPAGE	Exposures in pits at Bethpage (Junction of New York Highways 107 and 115) in eastern Nassau County, central Long Island, New York. Crosby (author of name), unpublished report on western Long Island; Berkey and Sanborn, 1923, American Society of Civil Engineers Transactions, Volume 86, Paper No. 1509; Thompson, Wells, and Blank, 1937, Economic Geology, Volume 32
FAR ROCKAWAY	Exposures at Far Rockaway, southeastern Queens Borough, western Long Island, New York. Woodworth, 1901, New York State Museum Bulletin 48
ISLAND	Exposures on the islands off southeastern New York, including Staten Island. Also present on Martha's Vineyard, Dukes County, Massachusetts. Ward, 1895, U. S. Geological Survey 15th Annual Report; Hollick, 1906, U. S. Geological Survey Monograph 50
LLOYD	Occurs in subsurface in a deep well at Lloyd Point (on Lloyd Neck), northwestern Suffolk County, Long Island, New York. Veatch, 1906, U. S. Geological Survey Professional Paper 44
	CONNECTICUT
BERLIN	Exposures in eastern Berlin Township, southern Hartford County, Connecticut. Flint, 1933, Geological Society of America Bulletin, Volume 44, No. 5
NEW HAVEN	Exposures at New Haven, southern New Haven County, Connecticut. Flint, 1933, Geological Society of America Bulletin, Volume 44, No. 5
	RHODE ISLAND
BARRINGTON	Exposures at Barrington, northern Bristol County, Rhode Island. Woodworth, 1896, U. S. Geological Survey 17th Annual Report, Part 1
QUEENS RIVER	Exposures along the Queens River (spelled Queen River on commercial highway maps) in southeastern Kent County and central Washington County, Rhode Island. Woodworth, 1896, U. S. Geological Survey 17th Annual Report, Part 1
MOHEGAN BLUFF	Exposures at Mohegan Bluff on Block Island, Washington County, Rhode Island. Woodworth, 1896, U. S. Geological Survey 17th Annual Report, Part 1; 1897, Geological Society of America Bulletin, Volume 8; 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52
	MASSACHUSETTS
TISBURY	Exposures at West Tisbury, west-central part of Marthas

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	Vineyard, Dukes County, Massachusetts. Woodworth, 1896, U. S. Geological Survey 17th Annual Report, Part 1; 1897, Geological Society of America Bulletin, Volume 8; Veatch, 1903, Journal of Geology, Volume 11; Fuller, 1903, American Geologist, Volume 32; Veatch, 1906, U. S. Geological Survey Professional Paper 44; Woodworth and Wigglesworth, 1934, Harvard College Museum of Comparative Zoology Memoirs Volume 52
BOSTON	Exposures at Boston, eastern Middlesex County, Massachusetts. Judson, 1949, Peabody Foundation for Archaeology Papers, Volume 4, No. 1
LEXINGTON	Exposures at Lexington (Junction of Massachusetts Highways 4, 25, and 128), east-central Middlesex County, Massachusetts. Judson, 1949, Peabody Foundation for Archaeology Papers, Volume 4, No. 1
NAUSHON	Exposures on the island of Naushon north of Marthas Vineyard, Dukes County, Massachusetts. Shaler, 1888, U. S. Geological Survey 7th Annual Report; Woodworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52
PLYMOUTH	Exposures at Plymouth Woods on the western shore of Cape Cod Bay, eastern Plymouth County, Massachusetts. Shaler, 1898, U. S. Geological Survey 18th Annual Report, Part 2; Emerson, 1917, U. S. Geological Survey Bulletin 597
FALMOUTH	Exposures at Falmouth, southwestern Barnstable County, Massachusetts. Shaler, 1898, U. S. Geological Survey 18th Annual Report, Part 2
BARNSTABLE	Exposures at Barnstable (U. S. Highway 6) on the south shore of Cape Cod Bay, Barnstable County, Massachusetts. Shaler, 1898, U. S. Geological Survey 18th Annual Report, Part 2; Woodworth and Wigglesworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52
ELIZABETH ISLANDS	Exposures on the Elizabeth Islands, northwest of Marthas Vineyard, Dukes County, Massachusetts. Emerson, 1917, U. S. Geological Survey Bulletin 597
MIDDLEBORO	Exposures on the east side of Middleboro, western Plymouth County, Massachusetts. Woodworth, 1896, U. S. Geological Survey 17th Annual Report, Part 1
NANTUCKET	Exposures on Nantucket Island, Nantucket County, Massachusetts. Woodworth and Wigglesworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52
TRURO	Exposures at Truro (U. S. Highway 6), northern Cape Cod, eastern Barnstable County, Massachusetts. Shaler, 1898, U. S. Geological Survey 18th Annual Report, Part 2; Woodworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52
NASHAQUITSA	Exposures at Nashaquitsa Cliffs, on the south shore of Marthas Vineyard, Dukes County, Massachusetts. Shaler, 1888, U. S. Geological Survey 7th Annual Report; 1898, U. S. Geological Survey 18th Annual Report, Part 2; Woodworth and Wigglesworth, 1934, Harvard College Museum of Comparative

MASSACHUSETTS

STRATIGRAPHIC NAME	TYPE LOCALITY AND NOMENCLATOR
	Zoology Memoirs, Volume 52
MOSHUP	Exposures on No Mans Land, south-southwest of Marthas Vineyard, and at Nashaquitsa Cliffs on the south shore of Marthas Vineyard, Dukes County, Massachusetts. Named for "a local god finding a place in the aboriginal folk-lore concerning the origin of Gay Head," southwestern end of Marthas Vineyard. Woodworth and Wigglesworth, 1934, Harvard College Museum of Comparative Zoology Memoirs, Volume 52
INDIAN HILL	Exposures at Indian Hill on Marthas Vineyard, Dukes County, Massachusetts. Shaler, 1888, U. S. Geological Survey 7th Annual Report
	NEW HAMPSHIRE
NEWINGTON	Exposures at Newington, northeastern Rockingham County, New Hampshire. Katz and Keith, 1917, U. S. Geological Survey Professional Paper 108
	MAINE
MACHIAS	Exposures about 5 miles south of Machias, (Junction U. S. Highway 1 and Maine Highway 191), Washington County, in southeastern Maine. Stone, 1887, American Journal of Science, 3rd Series, Volume 33

The following stratigraphic names have not been included in the text of this paper. Information pertaining to the exact location of the several type localities of these units was not available at this writing, nor did the author have access to the original papers describing them. References are included with each name in the hope that the reader may have access to them.

PLEISTOCENE

PINE formation, North Carolina, Wells, 1944, Elisha Mitchell Scientific Society Journal, Volume 60, No. 2

DURST formation, Texas, Leighton, 1936, Medallion Papers No. 24

ELM CREEK formation, Texas, Leighton, 1936, Medallion Papers, No. 24

EOCENE

LAREDO formation, Texas, Gardner, 1938, Washington Academy of Science Journal, Volume 28, No. 7

NORTHRIP member, Texas, McCallum, 1947, South Texas Geological Society Guidebook 14th Annual Meeting Field Trip

CHRISTINE member, Texas, McCallum, 1947, South Texas Geological Society Guidebook 14th Annual Meeting Field Trip

CISTERN member, Texas, McCallum, 1947, South Texas Geological Society Guidebook 14th Annual Meeting Field Trip

EASTERWOOD, Texas, Mathews, 1950, Texas Engineering Experiment Station Research Report 14 (geologic map)

UPPER CRETACEOUS

RED BRANCH member, Texas, Bergquist, 1949, U. S. Geological Survey Oil and Gas Investigations Preliminary Map 98

TARANTULA formation, Texas, Huffington, 1947, Harvard University Summaries of Theses for 1943-45

TEMPLETON member, Texas, Bergquist, 1949, U. S. Geological Survey Oil and Gas Investigation Preliminary Map 98

BLUEBONNET member, Texas, Adkins and Lozo, 1951, in Lozo, Fondren Science Series, No. 4

LAKE WACO formation, Texas, Adkins and Lozo, 1951, in Lozo, Fondren Science Series, No. 4

BOUDLIN member, Texas, Adkins and Lozo, 1951, in Lozo, Fondren Science Series, No. 4

LASCA formation, Texas, Huffington, 1947, Harvard University Summaries of Theses for 1943-45

PILOT KNOB formation, Texas, Durham, 1955, Corpus Christi Geological Society Guidebook Annual Field Trip, March

CLOICE member, Texas. Adkins and Lozo, 1951, in Lozo, Fondren Science Series, No. 4

LOWER CRETACEOUS

BORACHO formation, Texas, Tipton, 1951, West Texas Geological Society Guidebook Fall Field Trip, October, (geologic map)

BURNT formation, Texas, Schuchert, 1943, Stratigraphy of the Eastern and Central United States, John Wiley and Sons, New York (does not give derivation of name)

INDEX

A

B

BERLIN, Pleistocene, Connecticut
BERMUDA, Miocene, Virginia
BETHPAGE, Pleistocene, New York
BEULAH CHURCH, Eocene, Louisiana
BEXAR, Upper Cretaceous, Texas
BIG DECIPER, Upper Cretaceous, Arkansas
BIG DE GRAY, Upper Cretaceous, Arkansas
BIGFORD, Eocene, Texas
BILOXI, Pleistocene, Mississippi
BINGEN, Upper Cretaceous, Arkansas
BISTENEAU, Paleocene, Louisiana
BLACK BLUFF, Paleocene, Alabama
BLACK PRAIRIE, Upper Cretaceous, Texas
BLOOMFIELD, Eocene, Missouri
BLOSSOM, Upper Cretaceous, Texas
BLOUNT CREEK, Miocene, Louisiana
BLUE BLUFFS, Upper Cretaceous, Texas
BLUFF, Lower Cretaceous, Texas
BLUFF DALE, Lower Cretaceous, Texas
BLUFF MESA, Lower Cretaceous, Texas
BODCAW, Jurassic, Louisiana
BOHICKET, Pleistocene, South Carolina
BONHAM, Upper Cretaceous, Texas
BOQUILLAS, Upper Cretaceous, Texas
BOSTON, Pleistocene, Massachusetts
BRANCHTOWN, Pliocene, Pennsylvania
BRAZIL BRANCH, Middle Cretaceous, ? Arkansas
BRIDWELL, Pliocene, Texas
BRIER CREEK, Miocene, Georgia
BRISTOL, Pliocene, Florida
BRITTON, Upper Cretaceous, Texas
BROOKE, Lower Cretaceous, Virginia
BUCKRANGE, Upper Cretaceous, Arkansas
BUHRSTONE, Eocene, South Carolina
BULLA STRIATA, Pleistocene, Florida
BUMPNOSE, Eocene, Florida
BURCHES FERRY, Upper Cretaceous, South Carolina
BURDITT, Upper Cretaceous, Texas
BURKEVILLE, Miocene, Texas
BUTLER, Eocene, Texas
BUTTSGIN, Eocene, Texas

C

CADDO LEVEE BOARD, Lower Cretaceous, Louisiana
CALAMITY, Recent, Texas
CALLIHAM, Eocene, Texas

CAMDEN, Paleocene, Arkansas
CAMPAGRANDE, Lower Cretaceous, Texas
CAMP SUPPLY, Lower Cretaceous, Oklahoma
CANEY POINT, Eocene, Arkansas
CARLOS, Eocene, Texas
CARNAHAN BAYOU, Miocene, Louisiana
CARPENTER, Upper Cretaceous, Texas
CASSEL HILL, Miocene, Louisiana
CASTALIA, Pleistocene, North Carolina
CASTOR CREEK, Miocene, Louisiana
CAW CAW, Eocene, South Carolina
CEDAR PARK, Lower Cretaceous, Texas
CENTERPOINT, Upper Cretaceous, Arkansas
CENTRE POINT, Pleistocene, Arkansas
CERRO GORDO, Lower Cretaceous, Arkansas
CHALK HILLS, Miocene, Louisiana
CHEMARD LAKE, Paleocene, Louisiana
CHERAW, Pliocene-Pleistocene, South Carolina
CHISOS, Upper Cretaceous, Texas
CHOWAN, Pleistocene, North Carolina
CHUSA, Miocene, Texas
CLIFFWOOD, Upper Cretaceous, New Jersey
COFFEE MILL HAMMOCK, Pleistocene, Florida
COLD SPRING, Miocene, Texas
COLQUITT, Upper Cretaceous, Texas
COLUMBUS, Upper Cretaceous, Arkansas
COLUMBUS, Upper Cretaceous, New Jersey
COMBAHEE, Miocene, South Carolina
COMET CREEK, Lower Cretaceous, Oklahoma
COMMERCE, Upper Cretaceous, Missouri
CONECUH, Pleistocene, Alabama
CONQUISTA, Eocene, Texas
CONROE, Eocene, Texas
CONVERSE, Eocene, Louisiana
COOLEDGE, Upper Cretaceous, Texas
CORRIGAN, Miocene, Texas
CORNFIELD HARBOR, Pleistocene, Maryland
CORSICANA, Upper Cretaceous, Texas
COUCH, Pliocene, Texas
COULTER'S FERRY, Upper Cretaceous, Mississippi
COW BAYOU, Paleocene, Louisiana
COX, Lower Cretaceous, Texas
CRAINESVILLE, Paleocene, Tennessee
CREOLA, Eocene, Louisiana
CROWN, Upper Cretaceous, Texas
CUERO, Miocene, Texas

D

DALLAS, Upper Cretaceous, Texas
DANTZLER, Lower Cretaceous, Mississippi
DAVION, Miocene, Mississippi
DAVIS, Jurassic, Louisiana
DECATUR, Eocene, Mississippi
DELAWARE RIVER, Recent, Delaware
DELIGHT, Lower Cretaceous, Arkansas
DELLET, Eocene, Alabama
DESSAU, Upper Cretaceous, Texas
DEVIL'S RIVER, Lower Cretaceous, Texas
DEWEYVILLE, Pleistocene, Texas
DEWITT, Pliocene-Miocene, Texas
DEXTER, Upper Cretaceous, Texas
DIBOLL, Eocene, Texas
DILLON, Lower Cretaceous, Louisiana
DILWORTH, Eocene, Texas
DIME BOX, Eocene, Texas
DISMAL SWAMP, Pleistocene, Virginia
DIXIE, Lower Cretaceous, Louisiana
DODSON, Eocene, Louisiana
DOLET HILLS, Paleocene, Louisiana
DOUGH HILLS, Miocene, Louisiana
DRISCOLL-SEVIER, Oligocene, Texas
DUBOSE, Eocene, Texas
DUGOUT, Pliocene, Texas
DUNLAP QUARRY, Miocene, Texas
DUNNELLON, Pliocene, Florida
DURANGO, Upper Cretaceous, Texas

E

EAGLE, Upper Cretaceous, Texas
EAGLE PASS, Upper Cretaceous, Texas
EATON, Eocene, Texas
ECTOR, Upper Cretaceous
EDISTO, Miocene, South Carolina
EGYPT, Upper Cretaceous, Missouri
ELIZABETH ISLANDS, Pleistocene, Massachusetts
ELLISVILLE, Miocene, Mississippi
ELSTONE, Paleocene, Texas
ENTERPRISE, Eocene, Mississippi
ESCONDIDO, Upper Cretaceous, Texas
ESPY, Lower Cretaceous, Texas
ETHOLEN, Lower Cretaceous, Texas
EUCHEE, Miocene, Florida

EUFAULA, Upper Cretaceous, Alabama
EULESS, Upper Cretaceous, Texas
EVERGLADES, Pliocene-Pleistocene, Florida

F

FAIRHAVEN, Miocene, Maryland
FALCON, Eocene, Texas
FALLS CITY, Eocene, Texas
FALMOUTH, Pleistocene, Massachusetts
FANT, Miocene, Texas
FAR ROCKAWAY, Pliocene, New York
FARRINGTON, Upper Cretaceous, New Jersey
FASHING, Eocene, Texas
FEDERAL HILL, Lower Cretaceous, Maryland
FISH HOUSE, Pleistocene, New Jersey
FLATWOODS, Paleocene, Mississippi
FLOUR BLUFF, Oligocene, Texas
FOLEY, Pliocene, Louisiana
FORT ADAMS, Miocene, Mississippi
FORT GAINES, Paleocene, Georgia
FORT WASHINGTON, Eocene, Maryland
FRANCONIA, Pleistocene, Virginia

G

GADSDEN, Eocene, Florida
GAINESVILLE, Lower Cretaceous, Texas
GARCENO, Eocene, Texas
GAZLEY CREEK, Eocene, Texas
GENEVA, Pleistocene, Alabama
GILLESPIE, Lower Cretaceous, Texas
GLASSBORO, Pleistocene, New Jersey
GLENDALE, Eocene, Texas
GOBER, Upper Cretaceous, Texas
GOODBREAD, Eocene, Texas
GOOD HOPE, Pliocene, Washington, D. C.
GOOSE CREEK, Pliocene, South Carolina
GRAHAM FERRY, Pliocene-Pleistocene, Mississippi
GRAND BAYOU, Paleocene, Louisiana
GRAND PRAIRIE, Lower Cretaceous, Texas
GRAVES, Upper Cretaceous, Arkansas
GRAVES CREEK, Pleistocene, Kentucky
GRAWUNDER, Eocene, Texas
GRAYSON, Lower Cretaceous, Texas
GRETA, Oligocene, Texas
GRIFFIN, Miocene, Georgia

GULF HAMMOCK, Eocene, Florida
GULLETTE BLUFF, Eocene, Alabama
GUTOSKEY, Eocene, Texas

H

HAMPTON, Pleistocene, South Carolina
HARBOR HILL, Pleistocene, New York
HAWKINS POINT, Lower Cretaceous, Maryland
HEMPSTEAD, Pleistocene, New York
HENNESSEY BAYOU, Oligocene, Mississippi
HENSELL, Lower Cretaceous, Texas
HERNDON, Lower Cretaceous, Louisiana
HEROD, Pleistocene, New York
HICKMAN, Pleistocene, Kentucky
HIGH BLUFF, Eocene, Louisiana
HIGH BLUFF, Upper Cretaceous, Arkansas
HOCKLEY MOUND, Pliocene, Texas
HOMOCHITTO, Miocene, Mississippi
HOOPER, Eocene, Texas
HOUSTON, Upper Cretaceous, Mississippi
HURRICANE, Eocene, Texas

I

IDALIA, Pliocene, Missouri
INDIAN HILL, Upper Cretaceous, Massachusetts
INDIO, Eocene, Texas
ISLAND, Upper Cretaceous, New York

J

JACKSONBORO, Miocene, Georgia
JACKSONVILLE, Miocene, Florida
JAMESBURG, Pleistocene, New Jersey
JAMES RIVER, Lower Cretaceous, Virginia
JOSE', Eocene, Texas
JUDKINS, Recent, Texas

K

KANAWHA, Upper Cretaceous, Texas
KEG CREEK, Eocene, Georgia
KEMP, Upper Cretaceous, Texas
KERENS, Paleocene, Texas
KEY WEST, Pleistocene, Florida
KIMBREL, Eocene, Louisiana

KINGS CREEK, Eocene-Oligocene, South Carolina
KIRSCHBERG, Lower Cretaceous, Texas
KNOXVILLE, Miocene, Mississippi
KOKERNOT, Recent, Texas
KOSTER, Upper Cretaceous, Arkansas
KURE, Pleistocene, North Carolina

L

LABAHIA, Pliocene, Texas
LAGARTO CREEK, Pliocene, Texas
LAKE CHARLES, Recent, Louisiana
LAKE CROCKETT, Upper Cretaceous, Texas
LAGRANGE, Eocene, Tennessee
LANDRUM, Eocene, Texas
LANG SYNE, Eocene, South Carolina
LAPARA, Pliocene, Texas
LA PERLA, Eocene, Texas
LEBEAU, Recent, Louisiana
LENA, Miocene, Louisiana
LEONA, Pleistocene, Texas
LE MOYEN, Recent, Louisiana
LEVYVILLE, Eocene, Florida
LEWISVILLE, Upper Cretaceous, Texas
LEXINGTON, Pleistocene, Massachusetts
LIME HILL, Paleocene, Louisiana
LIMESTONE CREEK, Oligocene, Mississippi
LIPAN, Eocene, Texas
LITTIG, Paleocene, Texas
LITTLE BEAR, Lower Cretaceous, Mississippi
LITTLE BRAZOS, Eocene, Texas
LITTLE MISSOURI, Eocene, Arkansas
LITTLE NATCHES, Eocene, Louisiana
LLOYD, Upper Cretaceous, New York
LOGGY BAYOU, Paleocene, Louisiana
LOMA BLANCA, Eocene, Texas
LONE OAK, Paleocene, Texas
LONG BEACH, Eocene, New Jersey
LOS ARRIEROS, Eocene, Texas
LOSOYO CREEK, Eocene, Texas
LOSTMANS RIVER, Pliocene-Pleistocene, Florida
LOTT, Upper Cretaceous, Texas
LOUANN, Permian, Arkansas
LOW CREEK, Eocene, Texas
LUFKIN, Eocene, Texas
LULA, Paleocene, Louisiana

LYTTON, Paleocene, Texas

M

MACHIAS, Pleistocene, Maine
MADISON, Oligocene, Mississippi
MAMOU, Pliocene, Louisiana
MANATEE RIVER, Miocene, Florida
MANCHESTER, Eocene, Arkansas
MANESS, Lower Cretaceous, Texas
MANNING, Eocene, Texas
MANSFIELD, Eocene, Louisiana
MARIETTA, Lower Cretaceous, Oklahoma
MARKS HEAD, Miocene, Georgia
MARKS-MILLS, Eocene, Arkansas
MARLIN, Upper Cretaceous, Texas
MARQUEZ, Eocene, Texas
MAXON, Lower Cretaceous, Texas
MCHENRY, Pleistocene-Recent, Maryland
MEAKIN, Upper Cretaceous, Arkansas
MEDILL, Upper Cretaceous, Texas
MELBOURNE, Pliocene-Pleistocene, Florida
MEMPHIS, Pleistocene, Tennessee
MERMENTAU, Recent, Louisiana
MEXIA, Paleocene, Texas
MIDDLEBORO, Pleistocene, Massachusetts
MIDDLETON, Paleocene, Tennessee
MILAMS, Eocene, Louisiana
MILAN, Pleistocene, Tennessee
MILLS, Eocene, Texas
MINDEN, Eocene, Louisiana
MISSISSIPPI, Miocene, Mississippi
MITCHELL'S FERRY, Eocene, Texas
MOBILE BAY, Pleistocene, Alabama
MOHEGAN BLUFF, Pleistocene, Rhode Island
MONAHANS, Recent, Texas
MONTAUK, Pleistocene, New York
MONTGOMERY, Eocene, Louisiana
MOSELEY, Eocene, Texas
MOSSY RIDGE, Eocene, Louisiana
MOULTON, Miocene, Texas
MOUNT HOLLY, Pliocene, New Jersey
MOUNT HOPE, Eocene, South Carolina
MOUNT LEBANON, Eocene, Louisiana
MOUNT VERNON, Lower Cretaceous, Virginia
MORRIS FERRY, Upper Cretaceous, Arkansas
MOSHUP, Pleistocene, Massachusetts

MULEROS, Lower Cretaceous, Texas
MURFREESBORO, Miocene, North Carolina
MYATT, Eocene, Louisiana
MYRICK, Paleocene-Eocene, Texas
MYRTLE BEACH, Pleistocene, South Carolina

N

NACOGDOCHES, Eocene, Texas
NANTUCKET, Pleistocene, Massachusetts
NASH CREEK, Oligocene, Louisiana
NASHAQUITSA, Pleistocene, Massachusetts
NASHUA, Pliocene, Florida
NATCHEZ, Pleistocene, Mississippi
NAUSHON, Pleistocene, Massachusetts
NAVASOTA, Miocene-Pliocene, Texas
NEVILLE, Pleistocene-Recent, Texas
NEWBY, Eocene, Texas
NEW HAVEN, Pleistocene, Connecticut
NEWINGTON, Pleistocene, New Hampshire
NEYLANDVILLE, Upper Cretaceous, Texas
NORTH KEYS, Miocene, Maryland
NOXUBEE, Eocene, Mississippi

O

OCHEESEE, Miocene, Florida
OKEFENOKEE, Pleistocene, Georgia
OKTIBBEHA, Upper Cretaceous, Mississippi
OLD BRIDGE, Upper Cretaceous, New Jersey
OLD OCEAN, Oligocene, Texas
OLMOS, Eocene, Texas
OLMOS, Upper Cretaceous, Texas
OMEN, Eocene, Texas
ONION CREEK, Pleistocene, Texas
OPPELLO, Upper Cretaceous, Arkansas
ORANGEBURG, Eocene, South Carolina
OZARK, Pleistocene, Alabama

P

PADUCAH, Pleistocene, Kentucky
PALAFOX, Eocene, Texas
PALM BEACH, Pleistocene, Florida
PARACHUCLA, Miocene, Georgia
PARSONSBURG, Pleistocene-Recent, Maryland
PASTORIA, Eocene, Arkansas

PEACE CREEK, Pliocene, Florida
PEARSALL, Lower Cretaceous, Texas
PECAN GAP, Upper Cretaceous, Texas
PENDLETON FERRY, Eocene, Louisiana
PENINSULAR, Eocene, Florida
PEPPER, Upper Cretaceous, Texas
PERMENTERS FARM, Miocene, Florida
PEROTE, Upper Cretaceous, Alabama
PETTUS, Eocene, Texas
PHILADELPHIA, Pleistocene, Pennsylvania
PIERCE ESTATE, Oligocene, Texas
PIERSON, Eocene, Louisiana
PIKETON, Pliocene, Missouri
PINE BLUFF, Upper Cretaceous, Texas
PINEY POINT, Eocene, Maryland
PINTO, Upper Cretaceous, Texas
PISGAH, Paleocene, Texas
PLUM POINT, Miocene, Maryland
PLYMOUTH, Pleistocene, Massachusetts
PONTCHARTRAIN, Pleistocene, Louisiana
PORT HUDSON, Pleistocene, Louisiana
PORTLAND, Upper Cretaceous, Alabama
PORT WASHINGTON, Pleistocene, New York
POTTSBORO, Lower Cretaceous, Texas
PRAIRIE d' ANE, Pleistocene, Arkansas
PRAIRIE de ROAN, Pleistocene, Arkansas
PRAIRIE ROCK, Upper Cretaceous, Mississippi
PRESIDIO, Lower Cretaceous, Texas
PRESTON, Lower Cretaceous, Texas
PRINCESS ANNE, Pleistocene, Virginia
PULLIAM, Upper Cretaceous, Texas

Q

QUEENS RIVER, Pleistocene, Rhode Island
QUITMAN, Lower Cretaceous, Texas

R

RAPPAHANNOCK, Lower Cretaceous, Virginia
RATTLESNAKE, Upper Cretaceous, Texas
REDFIELD, Eocene, Arkansas
RED RIVER, Pleistocene, Arkansas
RED RIVER, Upper Cretaceous, Texas
RENFROES, Upper Cretaceous, Georgia
RESENDEZ, Eocene, Texas
RHEMS, Eocene, South Carolina

RICHMOND, Miocene, Virginia
RIO GRANDE, Pleistocene, Texas
RISON, Eocene, Arkansas
RITA BLANCA, Pleistocene, Texas
ROBERTS, Miocene, Alabama
ROCKLAND, Miocene, Texas
ROCK PRAIRIE, Eocene, Texas
ROCKY CEDAR CREEK, Paleocene, Texas
ROCKY COMFORT, Upper Cretaceous, Arkansas
ROGERS, Upper Cretaceous, Texas
ROMA, Eocene, Texas
ROSETTE, Paleocene, Texas
ROXTON, Upper Cretaceous, Texas
RUTLEDGE, Paleocene, Alabama

S

SADDLE BAYOU, Eocene, Louisiana
SALINE BAYOU, Eocene, Louisiana
SALINENO, Eocene, Texas
SALKEHATCHIE, Miocene, South Carolina
SALTILLA, Pleistocene, Georgia
SAN AUGUSTINE, Eocene, Texas
SAN CARLOS, Upper Cretaceous, Texas
SAN MIGUEL, Upper Cretaceous, Texas
SASSAFRAS RIVER, Upper Cretaceous, Maryland
SAYREVILLE, Upper Cretaceous, New Jersey
SEA ISLAND, Pleistocene, South Carolina
SECO, Eocene, Texas
SERBIN, Eocene, Texas
SEVERN, Upper Cretaceous-Eocene, Maryland
SEWELL, Eocene, New Jersey
SHAFTER, Lower Cretaceous, Texas
SHELL BLUFF, Eocene, Georgia
SHILOH, Miocene, New Jersey
SHINGLE HILLS, Lower Cretaceous, Texas
SHOAL CREEK, Lower Cretaceous, Texas
SHONGALO, Eocene, Mississippi
SILO, Upper Cretaceous, Oklahoma
SIMMONS BLUFF, Pleistocene, South Carolina
SLAUGHTER CREEK, Eocene, Louisiana
SMETANA, Eocene, Texas
SOLEDAD, Miocene, Texas
SOPCHOPPY, Miocene, Florida
SOUTH AMBOY, Upper Cretaceous, New Jersey
SOUTH BOSQUE, Upper Cretaceous, Texas

SOUTH TYLER, Lower Cretaceous, Texas
SPILLER, Eocene, Texas
SPRING CREEK, Pleistocene, Texas
SQUANKUM, Eocene, New Jersey
SQUIRREL CREEK, Paleocene, Texas
ST. LANDRY, Upper Cretaceous, Louisiana
ST. MAURICE, Eocene, Louisiana
ST. STEPHENS, Eocene-Oligocene, Alabama
STEEP GULLY, Pliocene, Louisiana
STONE CITY, Eocene, Texas
STONE COAL BLUFF, Eocene, Louisiana
STONES SWITCH, Eocene, Texas
sub-CLARKSVILLE, Upper Cretaceous, Texas
SYCAMORE, Lower Cretaceous, Texas

T

TABOR, Eocene, Texas
TAPPAN, Pleistocene, New York
TARRANT, Upper Cretaceous, Texas
TASCOTAL, Oligocene or Miocene, ? Texas
TEHUACANA, Paleocene, Texas
TENMILE, Pleistocene, South Carolina
TENNESSEE RIVER, Pleistocene, Kentucky
TERLINGUA, Upper Cretaceous, Texas
THERRILL, Eocene, Texas
THORP SPRINGS, Lower Cretaceous, Texas
TIMBER BELT, Eocene, Texas
TIMBER CREEK, Eocene, New Jersey
TISBURY, Pleistocene, Massachusetts
TORCER, Lower Cretaceous, Texas
TORNILLO, Upper Cretaceous, Texas
TRENTON, Upper Cretaceous, New Jersey
TRURO, Pleistocene, Massachusetts
TULE, Pleistocene, Texas
TURKEY CREEK, Eocene, Texas
TUTTLE, Eocene, Texas
TWO MILE, Eocene, Texas
TYLER, Eocene, Texas
TYUS, Eocene, Texas

U

ULTIMA THULE, Lower Cretaceous, Arkansas
UNION, Pleistocene, Kentucky
UNION CHURCH, Eocene, Louisiana
UNIVERSITY MESA, Lower Cretaceous, Texas

UPPER LITTLE RIVER, Lower Cretaceous, Arkansas
UPSON, Upper Cretaceous, Texas
UVALDE, Pliocene, Texas

V

VALVERDE, Upper Cretaceous, Texas
VAN VALKENBURG, Recent, Florida
VAN VLECK, Oligocene, Texas
VELENO, Eocene, Texas
VIEJA, Upper Cretaceous, Texas
VIESCA, Eocene, Texas
VIRGINIAN, Miocene, Virginia

W

WADMALAW, Pleistocene, South Carolina
WAKULLA, Miocene, Florida
WALDO, Miocene, Florida
WALSTON, Pleistocene, Maryland
WANDO, Pleistocene, South Carolina
WASHINGTON, Upper Cretaceous, Arkansas
WEBB BLUFF, Paleocene, Texas
WEBBERVILLE, Upper Cretaceous, Texas
WELLBORN, Eocene, Texas
WERNER, Permian, Arkansas
WESSON, Jurassic, Arkansas
WHEELOCK, Eocene, Texas
WHITE BEACH, Miocene, Florida
WHITE BLUFF, Eocene, Arkansas
WHITE CLUFFS, Upper Cretaceous, Arkansas
WHITE'S CREEK, Miocene, Florida
WILEY'S LANDING, Miocene, Georgia
WILLIAMSBURG, Eocene, South Carolina
WILLIAMSON CREEK, Miocene, Louisiana
WILMINGTON, Eocene-Miocene, North Carolina
WINNFIELD, Upper Cretaceous, Louisiana
WOLFE CITY, Upper Cretaceous, Texas
WOODBRIDGE, Upper Cretaceous, New Jersey
WOODMANSIE, Pleistocene, New Jersey
WOODS BLUFF, Eocene, Alabama
WOOLEY'S BLUFF, Eocene, Louisiana
WORTHAM, Paleocene, Texas

Y

YEAGER, Oligocene, Texas

YOUNG'S BLUFF, Eocene, Louisiana
YUCCA, Lower Cretaceous, Texas
YUMA, Eocene, Texas

Z

ZADOC, Upper Cretaceous, Missouri
ZENORIA, Eocene, Louisiana
ZWOLIE, Upper Cretaceous-Paleocene, Louisiana

STRATIGRAPHIC INDEX

RECENT

ACCABEE, South Carolina
CALAMITY, Texas
DELAWARE RIVER, Delaware
JUDKINS, Texas
KOKERNOT, Texas
LAKE CHARLES, Louisiana
LEBEAU, Louisiana
LE MOYEN, Louisiana
MERMENTAU, Louisiana
MCHENRY, Maryland (Recent-Pleistocene)
MONAHANS, Texas
NEVILLE, Texas (Recent-Pleistocene)
PARSONSBURG, Maryland (Recent-Pleistocene)
VAN VALKENBURG, Florida

PLEISTOCENE

APPOMATOX, Virginia (Pleistocene-Pliocene)
BARNSTABLE, Massachusetts
BARRINGTON, Rhode Island
BEAVERDAM, Maryland
BERLIN, Connecticut
BETHPAGE, New York
BILOXI, Mississippi
BOHICKET, South Carolina
BOSTON, Massachusetts
BULLA STRIATA, Florida
CASTALIA, North Carolina
CENTRE POINT, Arkansas
CHERAW, South Carolina (Pleistocene-Pliocene)
CHOWAN, North Carolina
COFFEE MILL HAMMOCK, Florida
CONECUH, Alabama
CORNFIELD HARBOR, Maryland
DELANEY, Texas
DEWEYVILLE, Texas
DISMAL SWAMP, Virginia
ELIZABETH ISLANDS, Massachusetts
EVERGLADES, Florida (Pleistocene-Pliocene)
FALMOUTH, Massachusetts
FISH HOUSE, New Jersey
FRANCONIA, Virginia
GENEVA, Alabama

GLASSBORO, New Jersey
GRAHAM FERRY, Mississippi (Pleistocene-Pliocene)
GRAVES CREEK, Kentucky
HAMPTON, South Carolina
HARBOR HILL, New York
HEROD, New York
HICKMAN, Kentucky
JAMESBURG, New Jersey
KEY WEST, Florida
KURE, North Carolina
LEONA, Texas
LEXINGTON, Massachusetts
LOSTMANS RIVER, Florida (Pleistocene-Pliocene)
MACHIAS, Maine
MCHENRY, Maryland (Pleistocene-Recent)
MELBOURNE, Florida (Pleistocene-Pliocene)
MEMPHIS, Tennessee
MIDDLEBORO, Massachusetts
MILAN, Tennessee
MOBILE BAY, Alabama
MOHEGAN BLUFF, Rhode Island
MONTAUK, New York
MOSHUP, Massachusetts
MYRTLE BEACH, South Carolina
NANTUCKET, Massachusetts
NASHAQUITSA, Massachusetts
NATCHEZ, Mississippi
NAUSHON, Massachusetts
NEVILLE, Texas (Pleistocene-Recent)
NEW HAVEN, Connecticut
NEWINGTON, New Hampshire
OKEFENOKEE, Georgia
ONION CREEK, Texas
OZARK, Alabama
PADUCAH, Kentucky
PALM BEACH, Florida
PARSONSBURG, Maryland (Pleistocene-Recent)
PHILADELPHIA, Pennsylvania
PLYMOUTH, Massachusetts
PONTCHARTRAIN, Louisiana
PORT HUDSON, Louisiana
PORT WASHINGTON, New York
PRAIRIE d' ANE, Arkansas
PRAIRIE de ROAN, Arkansas
PRINCESS ANNE, Virginia
QUEENS RIVER, Rhode Island

RED RIVER, Arkansas
RIO GRANDE, Texas
RITA BLANCA, Texas
SALTILLA, Georgia
SEA ISLAND, South Carolina
SIMMONS BLUFF, South Carolina
SPRING CREEK, Texas
TAPPAN, New York
TENMILE, South Carolina
TENNESSEE RIVER, Kentucky
TISBURY, Massachusetts
TRURO, Massachusetts
TULE, Texas
UNION, Kentucky
WADMALAW, South Carolina
WALSTON, Maryland
WANDO, South Carolina
WOODMANSIE, New Jersey

PLIOCENE

ARCADIA, Florida
ARCHER, Florida
APPOMATOX, Virginia (Pliocene-Pleistocene)
BEACON HILL, New Jersey
BENTON, Missouri
BRANCHTOWN, Pennsylvania
BRIDWELL, Texas
BRISTOL, Florida
COUCH, Texas
DEWITT, Texas (Pliocene-Miocene)
DUGOUT, Texas
DUNNELLON, Florida
EVERGLADES, Florida (Pliocene-Pleistocene)
FAR ROCKAWAY, New York
FOLEY, Louisiana
GOOD HOPE, Washington, D. C.
GOOSE CREEK, South Carolina
GRAHAM FERRY, Mississippi (Pliocene-Pleistocene)
HOCKLEY MOUND, Texas
IDALIA, Missouri
LABAHIA, Texas
LAGARTO CREEK, Texas
LAPARA, Texas
LOSTMANS RIVER, Florida (Pliocene-Pleistocene)
MAMOU, Louisiana
MELBOURNE, Florida (Pliocene-Pleistocene)

MOUNT HOLLY, New Jersey
NASHUA, Florida
NAVASOTA, Texas (Pliocene-Miocene)
PEACE CREEK, Florida
PIKETON, Missouri
STEEP GULLY, Louisiana
UVALDE, Texas

MIOCENE

ALAQUA, Florida
ALLOWAY, New Jersey
ALTAMAHA, Georgia
APALACHICOLA, Florida
ASBURY, New Jersey
ASPALAGA, Florida
BAINBRIDGE, Georgia (Miocene-Oligocene)
BALLAST POINT, Florida
BERMUDA, Virginia
BLOUNT CREEK, Louisiana
BRIER CREEK, Georgia
BURKEVILLE, Texas
CARNAHAN BAYOU, Louisiana
CASSEL HILL, Louisiana
CASTOR CREEK, Louisiana
CHALK HILLS, Louisiana
CHUSA, Texas
COLD SPRING, Texas
COMBAHEE, South Carolina
CORRIGAN, Texas
CUERO, Texas
DAVION, Mississippi
DEWITT, Texas (Miocene-Pliocene)
DOUGH HILLS, Louisiana
DUNLAP QUARRY, Texas
EDISTO, South Carolina
ELLISVILLE, Mississippi
EUCHEE, Florida
FAIRHAVEN, Maryland
FANT, Texas
FORT ADAMS, Mississippi
GRIFFIN, Georgia
HOMOCHITTO, Mississippi
JACKSONBORO, Georgia
JACKSONVILLE, Florida
KNOXVILLE, Mississippi
LENA, Louisiana

MANATEE RIVER, Florida
MARKS HEAD, Georgia
MISSISSIPPI, Mississippi
MOULTON, Texas
MURFREESBORO, North Carolina
NAVASOTA, Texas (Miocene-Pliocene)
NORTH KEYS, Maryland
OCHEESEE, Florida
PARACHUCLA, Georgia
PERMENTERS FARM, Florida
PLUM POINT, Maryland
RICHMOND, Virginia
ROBERTS, Alabama
ROCKLAND, Texas
SALKEHATCHIE, South Carolina
SHILOH, New Jersey
SOLEDAD, Texas
SOPCHOPPY, Florida
TASCOTAL, Texas (Miocene? or Oligocene)
VIRGINIAN, Virginia
WAKULLA, Florida
WALDO, Florida
WHITE BEACH, Florida
WHITE'S CREEK, Florida
WILEY'S LANDING, Georgia
WILLIAMSON CREEK, Louisiana
WILMINGTON, North Carolina (Miocene-Eocene)

OLIGOCENE

BAINBRIDGE, Georgia (Oligocene-Miocene)
DRISCOLL-SEVIER, Texas
FLOUR BLUFF, Texas
GRETA, Texas
HENNESSEY BAYOU, Mississippi
KINGS CREEK, South Carolina (Oligocene-Eocene)
LIMESTONE CREEK, Mississippi
MADISON, Mississippi
NASH CREEK, Louisiana
OLD OCEAN, Texas
PIERCE ESTATE, Texas
ST. STEPHENS, Alabama (Oligocene-Eocene)
TASCOTAL, Texas (Oligocene or Miocene?)
VAN VLECK, Texas
YEAGER, Texas

AGUA VERDE, Texas
ARCADIA, Louisiana
ARP, Texas
BAYOU CALAMUS, Louisiana
BAYOU LA NANA, Louisiana
BEDIAS, Texas
BEULAH CHURCH, Louisiana
BIGFORD, Texas
BLOOMFIELD, Missouri
BRYAN, Texas
BUHRSTONE, South Carolina
BUMPNOSE, Florida
BUTLER, Texas
BUTTSGIN, Texas
CALLIHAM, Texas
CANEY POINT, Arkansas
CARLOS, Texas
CAW CAW, South Carolina
CONQUISTA, Texas
CONROE, Texas
CONVERSE, Louisiana
CREOLA, Louisiana
DECATUR, Mississippi
DELLET, Alabama
DIBOLL, Texas
DILWORTH, Texas
DIME BOX, Texas
DODSON, Louisiana
DUBOSE, Texas
EATON, Texas
ENTERPRISE, Mississippi
FALCON, Texas
FALLS CITY, Texas
FASHING, Texas
FORT WASHINGTON, Maryland
GADSDEN, Florida
GARCENO, Texas
GAZLEY CREEK, Texas
GLENDALE, Texas
GOODBREAD, Texas
GRAWUNDER, Texas
GULF HAMMOCK, Florida
GULLETTE BLUFF, Alabama
GUTOSKEY, Texas

HIGH BLUFF, Louisiana
HOOPER, Texas
HURRICANE, Texas
INDIO, Texas
JOSE', Texas
KEG CREEK, Georgia
KIMBREL, Louisiana
KINGS CREEK, South Carolina (Eocene-Oligocene)
LAGRANGE, Tennessee
LANDRUM, Texas
LANG SYNE, South Carolina
LA PERLA, Texas
LEVYVILLE, Florida
LIPAN, Texas
LITTLE BRAZOS, Texas
LITTLE MISSOURI, Arkansas
LITTLE NATCHES, Louisiana
LOMA BLANCA, Texas
LONG BRANCH, New Jersey
LOS ARRIEROS, Texas
LOSOYO CREEK, Texas
LOW CREEK, Texas
LUFKIN, Texas
MANCHESTER, Arkansas
MANNING, Texas
MANSFIELD, Louisiana
MARKS-MILLS, Arkansas
MARQUEZ, Texas
MILAMS, Louisiana
MILLS, Texas
MINDEN, Louisiana
MITCHELL'S FERRY, Texas
MONTGOMERY, Louisiana
MOSELEY, Texas
MOSSY RIDGE, Louisiana
MOUNT HOPE, South Carolina
MOUNT LEBANON, Louisiana
MOUNT TABOR, Texas
MYATT, Louisiana
MYRICK, Texas (Eocene-Paleocene)
NACOGDOCHES, Texas
NEWBY, Texas
NOXUBEE, Mississippi
OLMOS, Texas
OMEN, Texas
ORANGEBURG, South Carolina
PALAFOX, Texas

PASTORIA, Arkansas
PENDLETON FERRY, Louisiana
PENINSULAR, Florida
PETTUS, Texas
PIERSON, Louisiana
PINEY POINT, Maryland
REDFIELD, Arkansas
RESENDEZ, Texas
RHEMS, South Carolina
RISON, Arkansas
ROCK PRAIRIE, Texas
ROMA, Texas
SADDLE BAYOU, Louisiana
SALINE BAYOU, Louisiana
SALINENO, Texas
SAN AUGUSTINE, Texas
SECO, Texas
SERBIN, Texas
SEVERN, Maryland (Eocene-Upper Cretaceous)
SEWELL, New Jersey
SHELL BLUFF, Georgia
SHONGALO, Mississippi
SLAUGHTER CREEK, Louisiana
SMETANA, Texas
SPILLER, Texas
SQUANKUM, New Jersey
ST. MAURICE, Louisiana
ST. STEPHENS, Alabama (Eocene-Oligocene)
STONE CITY, Texas
STONE COAL BLUFF, Louisiana
STONES SWITCH, Texas
TABOR, Texas
THERRILL, Texas
TIMBER BELT, Texas
TIMBER CREEK, New Jersey
TURKEY CREEK, Texas
TUTTLE, Texas
TWO MILE, Texas
TYLER, Texas
TYUS, Texas
UNION CHURCH, Louisiana
VELENO, Texas
VIESCA, Texas
WELLBORN, Texas
WHEELOCK, Texas
WHITE BLUFF, Arkansas

WILLIAMSBURG, South Carolina
WILIMINGTON, North Carolina (Eocene-Miocene)
WOODS BLUFF, Alabama
WOOLEY'S BLUFF, Louisiana
YOUNG'S BLUFF, Louisiana
YUMA, Texas
ZENORIA, Louisiana

PALEOCENE

BENSON, Louisiana
BISTENEAU, Louisiana
BLACK BLUFF, Alabama
CAMDEN, Arkansas
CHEMARD LAKE, Louisiana
COW BAYOU, Louisiana
CRAINESVILLE, Tennessee
DOLET HILLS, Louisiana
ELSTONE, Texas
FLATWOODS, Mississippi
FORT GAINES, Georgia
GRAND BAYOU, Louisiana
KERENS, Texas
LIME HILL, Louisiana
LITTIG, Texas
LOGGY BAYOU, Louisiana
LONE OAK, Texas
LULA, Louisiana
LYTTON, Texas
MEXIA, Texas
MIDDLETON, Tennessee
MYRICK, Texas (Paleocene-Eocene)
PISGAH, Texas
ROCKY CEDAR CREEK, Texas
ROSETTE, Texas
RUTLEDGE, Alabama
SQUIRREL CREEK, Texas
TEHUACANA, Texas
WEBB BLUFF, Texas
WORTHAM, Texas
ZWOLLE, Louisiana (Paleocene-Upper Cretaceous)

UPPER CRETACEOUS

AGUJA, Texas
AIKEN, South Carolina
ALBIRUPEAN, Maryland

AMBOY, New Jersey
ANACACHO, Texas
ARCADIA PARK, Texas
ATKINSON, Georgia
BAYOU CHICOT, Louisiana
BAY VIEW AVENUE, New Jersey
BEXAR, Texas
BIG DECIPER, Arkansas
BIG DE GRAY, Arkansas
BINGEN, Arkansas
BLACK PRAIRIE, Texas
BLOSSOM, Texas
BLUE BLUFFS, Texas
BONHAM, Texas
BOQUILLAS, Texas
BRAZIL BRANCH, Arkansas (Upper? or Middle? Cretaceous)
BRITTON, Texas
BUCKRANGE, Arkansas
BURCHES FERRY, South Carolina
BURDITT, Texas
CARPENTER, Texas
CENTERPOINT, Arkansas
CHISOS, Texas
CLIFFWOOD, New Jersey
COLQUITT, Texas
COLUMBUS, Arkansas
COLUMBUS, New Jersey
COMMERCE, Missouri
COLLEDGE, Texas
CORSICANA, Texas
COULTER'S FERRY, Mississippi
CROWN, Texas
DALLAS, Texas
DESSAU, Texas
DEXTER, Texas
DURANGO, Texas
EAGLE, Texas
EAGLE PASS, Texas
ECTOR, Texas
EGYPT, Missouri
ESCONDIDO, Texas
EUFAULA, Alabama
EULESS, Texas
FARRINGTON, New Jersey
GOBER, Texas
GRAVES, Arkansas
HIGH BLUFF, Arkansas

HOUSTON, Mississippi
INDIAN HILL, Massachusetts
ISLAND, New York
KANAWHA, Texas
KEMP, Texas
KOSTER, Arkansas
LAKE CROCKETT, Texas
LEWISVILLE, Texas
LLOYD, New York
LOTT, Texas
MARLIN, Texas
MEAKIN, Arkansas
MEDILL, Texas
MORRIS FERRY, Arkansas
NEYLANDVILLE, Texas
OKTIBBEHA, Mississippi
OLD BRIDGE, New Jersey
OLMOS, Texas
OPPELLO, Arkansas
PECAN GAP, Texas
PEPPER, Texas
PEROTE, Alabama
PINE BLUFF, Texas
PINTO, Texas
PORTLAND, Alabama
PRAIRIE ROCK, Mississippi
PULLIAM, Texas
RATTLESNAKE, Texas
RED RIVER, Texas
RENFROES, Georgia
ROCKY COMFORT, Arkansas
ROGERS, Texas
ROXTON, Texas
SAN CARLOS, Texas
SAN MIGUEL, Texas
SASSAFRAS RIVER, Maryland
SAYREVILLE, New Jersey
SEVERN, Maryland (Upper Cretaceous-Eocene)
SILO, Oklahoma
SOUTH AMBOY, New Jersey
SOUTH BOSQUE, Texas
ST. LANDRY, Louisiana
sub-CLARKSVILLE, Texas
TARRANT, Texas
TERLINGUA, Texas
TORNILLO, Texas
TRENTON, New Jersey

UPSON, Texas
VALVERDE, Texas
VIEJA, Texas
WASHINGTON, Arkansas
WEBBERVILLE, Texas
WHITE CLIFFS, Arkansas
WINNFIELD, Louisiana
WOLFE CITY, Texas
WOODBRIDGE, New Jersey
ZADOC, Missouri
ZWOLLE, Louisiana (Upper Cretaceous-Paleocene)

LOWER CRETACEOUS

ANTLERS, Oklahoma
BACON, Texas
BALTIMOREAN, Maryland
BARTON CREEK, Texas
BAUM, Oklahoma
BLUFF, Texas
BLUFF DALE, Texas
BLUFF MESA, Texas
BROOKE, Virginia
CADDO LEVEE BOARD, Louisiana
CAMPAGRANDE, Texas
CAMP SUPPLY, Oklahoma
CEDAR PARK, Texas
CERRO GORDO, Arkansas
COMET CREEK, Oklahoma
COX, Texas
DANTZLER, Mississippi
DELIGHT, Arkansas
DEVIL'S RIVER, Texas
DILLON, Louisian
DIXIE, Louisiana
EAGLE MOUNTAINS, Texas
ESPY, Texas
ETHOLEN, Texas
FEDERAL HILL, Maryland
GAINESVILLE, Texas
GILLESPIE, Texas
GRAND PRAIRIE, Texas
GRAYSON, Texas
HAWKINS POINT, Maryland
HENSELL, Texas
HERNDON, Louisiana

JAMES RIVER, Virginia
KIRSCHBERG, Texas
LITTLE BEAR, Mississippi
MANESS, Texas
MARIETTA, Oklahoma
MAXON, Texas
MOUNT VERNON, Virginia
MULEROS, Texas
PEARSALL, Texas
POTTSBORO, Texas
PRESIDIO, Texas
PRESTON, Texas
QUITMAN, Texas
RAPPAHANNOCK, Virginia
SHAFTER, Texas
SHINGLE HILLS, Texas
SHOAL CREEK, Texas
SOUTH TYLER, Texas
SYCAMORE, Texas
THORP SPRINGS, Texas
TORCER, Texas
ULTIMA THULE, Arkansas
UNIVERSITY MESA, Texas
UPPER LITTLE RIVER, Arkansas
YUCCA, Texas

JURASSIC

BODCAW, Louisiana
DAVIS, Louisiana
WESSON, Arkansas

PERMIAN

LOUANN, Arkansas
WERNER, Arkansas

PENNSYLVANIAN

MOREHOUSE, Louisiana

THE BEAUFORT, SOUTH CAROLINA, MAGNETIC LOW

by

Glenn A. Burdick
Sperry Microwave
Clearwater, Florida

and

H. W. Straley, III
Georgia Institute of Technology

ABSTRACT

The writers have mapped a large horseshoe-shaped area of low anomalies near Beaufort, South Carolina. Beginning southwest of Charleston, it roughly parallels the coast a few miles inland to St. Helena Sound, where it opens seaward. It is separated from the sea southwest of Port Royal Sound by an area of high anomalies which continues an unknown distance south of Tybee Road at Savannah. The area of low anomalies extends into Georgia near Springfield and continues up the Savannah River valley south of Allendale, South Carolina. From there it can be traced some tens of miles northeast toward Lake Marion. It is bordered on the southwest and northeast by areas of high anomalies. Between the coastal and inland arms of the horseshoe lies the Summerville magnetic high.

The low may be attributed to topography on buried basement and/or to structural-lithologic differences within the complex. Some recent seismic evidence lends credence to the former interpretation.

* * *

For some years, the writers have been assembling discrete magnetic surveys of the Atlantic Coastal Plain with a view to preparing a map showing field strength over the region, as far north as the Dismal Swamp, Virginia. Two features are shown on a map of the plain

between Charleston, South Carolina, and Savannah, Georgia (Figure 1). One is a high, passing northeastward into terra incognita, magnetically speaking (Straley and Straley, 1954); the other is a low, in which is situated the town of Beaufort, South Carolina.

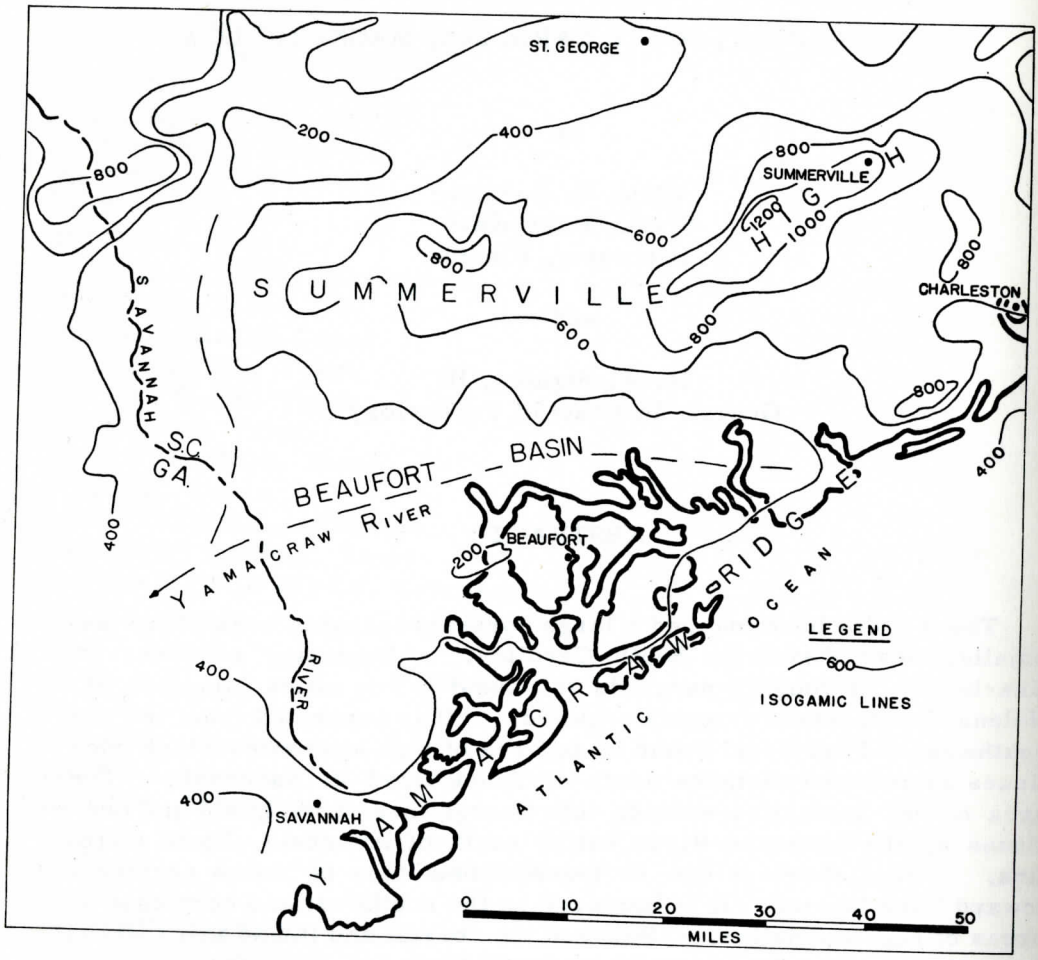


FIG. I. BEAUFORT (S.C.) MAGNETIC LOW

The interpretation of magnetic anomalies in coastal plains has been controversial. In the Atlantic Coastal Plain, they may result soley from lithologic changes in the pre-Cretaceous basement complex. Nothing in the sedimentary rocks leads one to suspect a cause therein. It is possible, however, that the basement-surface peneplain is warped and wrinkled by post-Appalachian movements. A kinship with Antillian trends may exist. If so, Laramide or Juracide deformation may be indicated. Still another possibility is that the basement surface has irregularities that represent topographic elevations and depressions of an old pre-Cretaceous erosion surface. Combinations of any of the above are probable.

Magnetic results may be interpreted as buried topography with drainage from southwest of Charleston and St. George, South Carolina, sweeping southward through Effingham County, Georgia, and emptying into the Atlantic near Brunswick, Georgia, or the Gulf of Mexico in Appalachee Bay. Seismic studies (Woollard, 1955, 1957, 1959, 1960) have confirmed the presence of an elevation, called Yamacraw Ridge, along the coast southward from Charleston, South Carolina, as well as a depression beginning near Charleston and extending southwestward. These same investigations (Woollard, 1957) suggest that the Yamacraw River (our name) or another may have breached a topographic feature near Pearson, Atkinson County, Georgia, and emptied into the Gulf of Mexico.

Magnetic data suggest other possible streams, tributary to the Yamacraw or its southern counterpart, rising near Pearson, Georgia. A fork may have flowed southwestward from near St. George, South Carolina, into Allendale County, South Carolina, and thence eastward to a confluence with the Yamacraw in Hampton County, South Carolina.

CONCLUSIONS

The writers are convinced that some of the magnetic anomalies along the Atlantic Coastal Plain may be attributed to buried pre-Cretaceous topography such as was pointed out by Johnson (Johnson, 1938). The low anomalies near Beaufort, South Carolina, represent one fork of a possible river beneath Cretaceous and younger rocks. They do not, however, discount the possibility that both structure and lithology play a large part in interpretation. They simply state that the effect of topography cannot be neglected. The extent to which each factor participates can be determined only when the plain has been surveyed completely.

REFERENCES

Burdick, G. A. and Straley, H. W. III, 1959, The Beaufort, S. C. magnetic low: Geol. Soc. America Bull., v. 70, p. 1758.

Johnson, W. R., Jr., 1938, Geomagnetic reconnaissance of the Coastal Plain of northeastern North Carolina: Geol. Soc. America Bull., v. 39, p. 1951.

Straley, H. W. III, and Straley, W. F., 1954, Magnetic observations in the South Carolina Coastal Plain: Jour. Elisha Mitch. Sci. Soc., v. 70, p. 35-37.

Woollard, G. P., 1954, Bougier anomaly map of Georgia: Ga. Dept. Mines, Min., and Geol., Ga. Mineral News Letter, v. 6, p. 18-20.

_____, 1955, Preliminary report on seismic investigations in Tift and Atkinson counties, Georgia: Ga. Dept. Mines, Min., & Geol., Ga. Mineral News Letter, v. 8, p. 69-77.

Woollard, G. P., Bonini, W. E., and Meyer, R. P., 1957, A seismic-refraction study of the subsurface geology of the Atlantic coastal plain between Virginia and Florida: Univ. Wisc. Tech Rept., Contract, No. N 7onr - 28512.